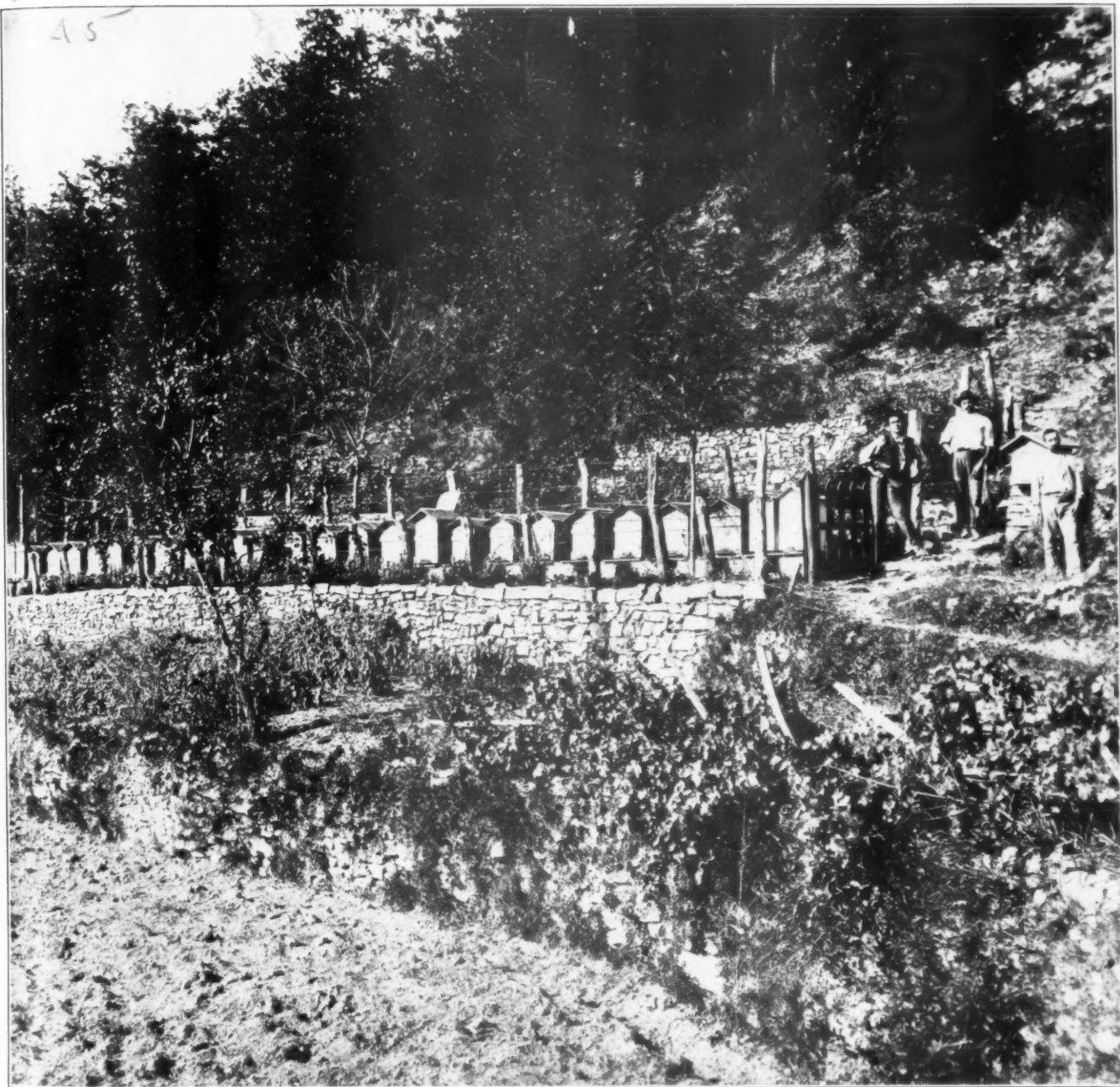


AMERICAN BEE JOURNAL

JUNE

1915

California State Library
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Dec. 15



In the Apennines

Apiary of Engineer Capponi, of San Remo, mentioned in the May number.



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American Bee Journal

CEDAR WOOD

Five bodies, 8 or 10 frame, 25c each. Covers and bottoms, prices upon application. Falcon Foundation and Bee Supplies.

FROFALCON QUEENS

Everything for the beekeeper. Address.
J. C. Frohlinger, Berkeley, Calif.
Greater San Francisco

Wanted

Choice Grades of EXTRACTED HONEY

Send Sample and State Quantity
How packed and the lowest
price you will take

We are always in the market for
Beeswax, and pay highest market
prices.

Hildreth & Segelken

265-267 Greenwich St., New York, N. Y.

TRY MY FAMOUS QUEENS

From Improved Stock

The best that money can buy; not inclined to swarm, and as for honey gatherers they have few equals.

3-Band Golden, 5-Band and Carniolan

bred in separate yards, ready March 20. Untested, 1, \$1.00; 6, \$5.00; 12, \$9.00; 25, \$17.50; 50, \$34.00; 100, \$65.00. Tested, 1, \$1.50; 6, \$8.00; 12, \$15.00. Breeders of either strain, \$5.00. Nuclei with untested queen, 1-frame, \$2.50; six 1-frame, \$15.00; 2-frame, \$3.50; six 2-frame, \$20.40; nuclei with tested queen, 1-frame, \$3.00; six 1-frame, \$17.40; 2-frame, \$1.00; six 2-frame, \$24.40. Our Queens and Drones are all reared from the best select queens, which should be so with drones as well as queens. No disease of any kind in this country. Safe arrival, satisfaction and prompt service guaranteed.

D. E. BROTHERS, Attalla, Ala.

BUCKEYE CHAFF HIVES DOVETAILED HIVES

Sections, Comb Foundation

Choice Northern-Bred Italian Queens

Bees by the pound

General Agents for Root's Goods in Michigan

SEND FOR 1915 CATALOG

M. H. HUNT & SON

Lansing, Mich.

QUINN'S QUEENS OF QUALITY

Not coming, but are here to stay. Best bee for any climate; purest of the pure.

GREY CAUCASIANS

Bred strictly in the light of **Mendel's Laws of Heredity**; no guess, but positive results. The pioneer scientific queen-rearing establishment of America. We lead, others may follow. Every queen guaranteed as to purity of mating.

Special isolated mating station on bald open prairie, not a tree within miles—no chance for gypsy drones.

CHAS. W. QUINN

609 W. 17th Ave., Houston Heights, Texas

SECTIONS "GOOD ENOUGH" BRAND

By eliminating the expense of grading and inspection, we are enabled to put on the market this special brand of Mill Run Sections at low prices in addition to our regular Lewis Brand stock. They are made by the best machinery, and undergo the same process of manufacture, such as sanding, polishing, etc., as the highest priced sections on the market, but no attempt is made at grading, and they include both the first and second grades. Sold only by the crate of 500. We have them only in the following sizes this season: 4x4x4-1/2 beeway, 4x4x4-1/2, and 4x5x1-1/2 plain. The stock on hand is fine and it will please you. Write us for prices on large quantities. Many orders for these sections are arriving some as high as 25,000, and all are pleased. A trial order will convince you they are **good enough**.

500 in crate.....\$2.50
1000 to 4500, per M.....4.50
5000 to 9500, per M.....\$4.25
10,000 or more.....4.00

A. G. WOODMAN CO., Grand Rapids, Mich.

QUEENS—Golden and Leather-colored

We are in position to fill your orders for queens and bees from date of this "Journal" until October 1, 1915, at following prices:

Prices of one and over	1	6	12
Virgins.....	\$.50	\$2.75	\$ 5.00
Untested.....	.85	4.50	8.00
Select untested.....	1.00	5.00	9.00
Warranted.....	1.10	5.50	9.50
Tested.....	1.50	7.50	13.50
Select tested.....	1.75	9.00	15.00
Tested breeding.....	3.00		
Select tested breeding.....	5.00		
Ex. select test. breeding.....	7.50		

1 frame nuclei without queen.....	\$1.50
2 frame nuclei without queen.....	2.75
3 frame nuclei without queen.....	3.50
Colony 8-frame hive without queen.....	7.50
Colony 10-frame Danz, without queen.....	9.50
Colony 10-frame hive without queen.....	9.50

When queens are wanted with nuclei and colonies, add queens at prices as above for queens.

Bees by Pound F. O. B. Penn., Miss.

1/2-pound package, wire cage.....	\$1.00
1-pound package, wire cage.....	1.50
2-pound package, wire cage.....	2.00

No queen supplied at these prices. Make selection and add to above prices.

Our record last year, about 10,000 queens, and shipments to all important foreign countries; every State in United States and Canada, and only two complaints, which we readily made good. Try us. We are sure to please you.

Our QUEENS all around the world. The sun never sets on a Penn Co.'s queen.

THE PENN COMPANY, Penn, Lowndes County, Mississippi

Representatives of The A. I. Root Company, and Queen Specialists.

PORTER BEE ESCAPE



**SAVES
HONEY
TIME
MONEY**

For sale by all dealers.
If no dealer, write factory
R & E. C. PORTER, MFRS.
Lewistown, Ill., U. S. A.

3-BAND ITALIAN QUEENS

FOR SALE AFTER MAY 1

This stock of bees does get the honey when there is any to get. One untested, 75c; 6, \$4.00; 12, \$7.00; 25, \$12.00; 50, \$16.00. One lb. of bees with queen, \$3.00; 2 lbs. with queen, \$5.00. All queens are mated and laying before sending out. No tested queens for sale. The above prices must be doubled when sending queens to foreign lands. If queen arrives dead, send it back and get another or the money. No checks accepted in any case. (My former address was Cato, Ark.)

Address, **J. B. ALEXANDER**
R. R. No. 1, Jacksonville, Ark.

CAUCASIANS and CARNIOLANS

First importer of these races from their native lands; 31 years' experience with Carniolans, 12 with Caucasians; resided and traveled in Carniola, Austria four years, giving my whole time to queen rearing; spent several months in bee explorations in the Caucasus, Russia. Untested queens, \$1.00; five for \$4.00. Tested, \$2.00 each; all from select mothers imported direct from apiaries personally inspected by myself. Japan, Australasia, and South America add one-half to above prices. Safe arrival guaranteed anywhere in the world.

FRANK BENTON
Cherrydale Station, Washington, D. C.

CARNIOLANS ONLY

Carniolans build up fast in the spring, are very prolific. VERY GENTLE, cap honey very white, enter comb-honey supers readily, and gather almost no propolis, and are the BEST of honey gatherers. Ten years' experience in honey producing and breeding these bees.

Untested queens, \$1.00 each; dozen, \$9.00
Tested.....1.50.....12.00
1-pound package with queen.....2.50
Ask for our free paper, "Superiority of the Carniolan Bee."

ALBERT G. HANN, Clinton, New Jersey

American Bee Journal

QUALITY FIRST

"falcon" Queens speak for themselves

We'll let two of our many satisfied customers tell what they think of "falcon" Queens.

Gentlemen:—The queens received from you this season have been perfectly satisfactory. For cleaning up foulbrood they cannot be beat. We could not ask for any better queens, and I have not heard any fault found from parties I have sold to.

PERCH RIVER, N. Y., Oct. 5, 1914.

HUDSON SHAVER & SONS.

Dear Sir:—I received the tested queen all right, and she is a fine layer and a large queen, also. I want to thank you for sending me such a nice one.

NEWFOUNDLAND, N. J., Oct. 5, 1914.

FRED HALL.

Prices of "Falcon" Queens—Three-banded Italians, Golden Italian and Carniolans

Before July 1			Before July 1		
Untested.....	I	6	Tested.....	I	6
Select untested.....	\$1.10	\$6.30	Select tested.....	\$1.50	\$8.00
	1.25	6.75		2.00	10.00
		12.00			12
		12.75			\$15.00
					18.00

SAFE ARRIVAL AND SATISFACTION GUARANTEED

DEALERS EVERYWHERE

RED CATALOG, Postpaid

"Simplified Beekeeping," Postpaid

W. T. Falconer Mfg. Co.,

Falconer, New York

Where the good bee-hives come from

The Double-Walled Massie Bee-Hive



THE MASSIE HIVE

For Comb or Extracted Honey

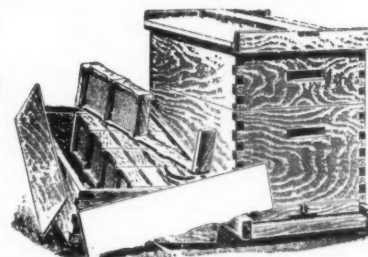
**Surest Protection for Bees—Increased Supply of Honey—
The Best Hive for any Climate**

Furnished in the clearest of lumber in either Cypress, White Pine or Redwood
All Brood and Extracting Frames Made from White Pine

THE MASSIE VENTILATED BOTTOM

Admits fresh air into the hive, lessening the chance for swarming,
and giving renewed energy to the bees.

Fifty years in the bee supply business has shown us that
the **MASSIE** is the **very best hive**, and testimonials
to this effect are received daily from those who are
using this hive.



The Dovetailed Hive for Comb Honey

WHY NOT GIVE US A TRIAL ORDER?

SATISFACTION FULLY GUARANTEED

We are also extensive manufacturers of **Dovetailed Hives** and all other **Apiarian Supplies**. If you are in the market for supplies be sure to get our prices before buying elsewhere. We will mail our large illustrated catalog and **special price list** to any one upon request.

KRETCHMER MFG. CO., COUNCIL BLUFFS, IOWA

CLOSING OUT SALE

—OF—

BEE BOOKS, VEILS AND SMOKERS

I have some of the following that I would like to close out at once, and on which I make *reduced prices, all postpaid*:

"Langstroth on the Honey-Bee" (Latest edition, \$1.20).....	\$1.00
"Songs of Beedom" (10 bee-songs—25c).....	.15
"Honey-Money Stories" (25c).....	.15
Hand's "Beekeeping by 20th Century Methods" (50c).....	.30
Wilder's "Southern Bee-Culture" (50c).....	.35
Danzenbaker Bee-Smoker (\$1.00).....	.80

GEORGE W. YORK, SANDPOINT, IDAHO

ITALIAN QUEENS

NORTHERN BRED

Superior winterers, second to none. My free list explains it all. Untested, \$1.00; select tested, \$1.50. Bees by the pound or half pound. Plans, "How to Introduce Queens," 15 cents; "How to Increase," 15 cents; both, 25 cents.

E. E. MOTT, GLENWOOD, MICH

Get the Atchley Queens

It took 30 years to produce the good qualities obtained in this strain of three banded bees. If you haven't some of this stock in your apiary now, you will have, some day. Untested, \$1.00 each, or \$10.00 a dozen. After April 15, 75c each, or \$8.00 a dozen. Good tested ones \$1.50 each. I can sell you bees or nuclei cheap; write for prices. Satisfaction of all bees and queens guaranteed.

Wm. Atchley, Malhis, San Patricio Co., Texas.



FREE!

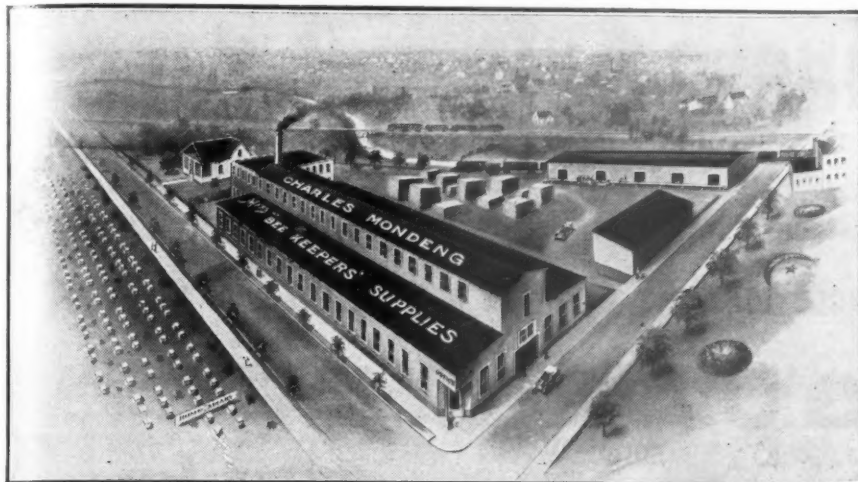
Our new Bee Book of 68 pages—150 illustrations, is just off the press. Contains valuable information for beginners in bee culture, as well as for expert bee-keepers. We have everything for the apiary, including the bees. We ship same day order is received.

BLANKE MFG. & SUPPLY CO.,

209 Washington Ave., St. Louis, Mo.

Established 1899

American Bee Journal



MILLIONS OF Fine Sections

Thousands of Hives, the best ever made of white pine lumber, ready for prompt shipment. Don't miss them. My goods are guaranteed. A trial order will prove it. 200 colonies of Adels and Carniolans. If you want a square deal, send for my Catalog and Price List. I will pay highest market price for Beeswax in trade.

CHARLES MONDENG
146 Newton Ave. North
Minneapolis, Minnesota

SUPPLIES AND BEES

If you need supplies or bees shipped promptly, write us. Our stock is complete. No delays. Chaff and single walled hives. Bees by the pound, nucleus or full colony. Untested queens, \$1.00. Tested, \$1.25. Catalog free.

I. J. STRINGHAM
105 Park Place, New York
APIARIES: Glen Cove, L. I.

Queens and Bees

Our queens and bees are from the best imported Italian stock. Unexcelled for gentleness and honey. Ready April 1.

One untested queen, 75c; 6, \$4.25; 12, \$8.00. 1/2 lb. of bees, 90c; 1 lb., \$1.25. If a queen is wanted with the bees, add the price. Safe arrival and satisfaction guaranteed.

N. FOREHAND & CO.,
Ft. Deposit, Ala.

Leather Colored Italians

About April 1st. I will again be ready to mail untested queens of my fine strain of Italians; I breed no other race. I also have choice tested and breeding queens at all times. Get your orders booked early.

I rear only the kind of queens that are sought for and demanded by successful beekeepers. Get your orders booked early. Cash with order. Satisfaction guaranteed. Untested queens, \$1.00 each; \$9.00 per doz.; \$75 per 100. Choice tested, \$1.50 each; \$15 per doz. Breeders, \$3.00 to \$5.00 each.

C. S. ENGLE
Beeville, Bee Co., Texas

NEW ENGLAND BEE KEEPERS

Everything in Supplies
New Goods. Factory Prices.
Save Freight and Express Charges
CULL & WILLIAMS CO.,
Providence, R. I.

FARM SEEDS

Alsike Clover seed, small red, mammoth. Timothy. Alfalfa, White and Yellow Sweet clover and blue grass, millet, rape, etc. Also thoroughbred seed corn. Catalog apiary supplies free. Write for prices on seeds and samples.

F. A. SNELL,
Milledgeville, Carroll Co., Illinois

We Have Decided

Not to change the prices for 1915, and will not mail new catalogs to our customers unless we are requested. Order from last catalog. Send us list of goods wanted for best prices. No one can beat us. We have been in business since 1890. Reference, any mercantile agency.

H. S. DUBY & SON, St. Anne, Ill.

Celluloid Queen-Buttons

These are very pretty things for beekeepers or honey-sellers to wear on their coats. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE. — One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one of these buttons, as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown above is a reproduction of a motto queen-button that we offer to beekeepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts



HONEY AND BEESWAX

CHICAGO, May 15.—Very little honey of any kind is selling at the present time. The market, however, is bare of comb honey, and while we cannot quote prices from sales, No. 1 to fancy would bring 17@18c per pound. No producer should have any comb to carry to next month with the market in its present condition, for it would sell very soon after arrival.

Extracted is plentiful and slow of sale with the exception of white clover and basswood, which, like the comb honey, seems to be exhausted and commands 9c per pound, but other white grades can be bought at 7@8c per pound, while the ambers can be bought from 5@7c per pound, according to kind and quality. Beeswax is steady at from 30@32c per pound.

R. A. BURNETT & Co.

KANSAS CITY, MO., May 15.—There is no change in our honey market since our last quotation. The market is bare of comb honey, but the supply of extracted is large and the demand very light. We quote: No. 1 white comb honey, 24 section cases, \$3.50 to \$3.60; No. 2, \$3.25 to \$3.35. No. 1 amber, \$3.25 to \$3.40. No. 2, \$2.75 to \$3.00. Extracted, white, per pound, 7 1/2@8c; amber, 5@7c. Beeswax, No. 1, 28c a pound; No. 2, 25c a pound.

C. C. CLEMONS PRODUCE COMPANY.

CINCINNATI, May 17.—Business is not good in the honey line, although the demand is looking up somewhat. We quote No. 1 comb honey at \$1.75 to \$4.00 per case, and extracted amber at 5 1/2@7c, and white from 8@10c a pound. We are paying 28c a pound cash for beeswax or 30c a pound in trade.

THE FRED W. MUTH CO.

DENVER, May 17.—We have nothing to offer in comb honey, but have a good stock of first-class extracted honey, which we are offering at the following local jobbing prices: White, 8 1/2@8 3/4c per pound; light amber 8@8 1/4c, and amber strained, 7@8c. We buy beeswax and pay 28c per pound in cash and 30c per pound in trade for clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.
Frank Rauchfuss, Mgr.

NEW YORK, May 18.—There is no change in the situation of the honey market from our last report. Trade is quiet on comb honey as well as extracted, and prices are ruling about the same as our last quotations.

HILDRETH & SEGELKEN.

LOS ANGELES, May 18.—The market on California honey at present is about as follows: Comb, white, \$3.00 per case; light amber, \$2.75. Stocks ample for present requirements. Extracted, light amber alfalfa, 3 1/2c per pound; light amber sage, 4 1/2c per pound; water-white sage, 7c; white orange, 7c (new crop). Beeswax, 28c. All f. o. b. Coast.

HAMILTON & MENDERSON.

YOU TAKE NO CHANCES WHEN USING LEWIS BEEWARE

Lewis Hives and Sections and all other goods are made from
the best materials and are scientifically manufactured

THIS IS THE ONE CONCLUSION ON WHICH ALL BEEKEEPERS CAN AGREE

OUR GUARANTEE

We absolutely guarantee our goods to be perfectly manufactured of the best material for the purpose. On examination, if our goods are not as represented, we do not ask you to keep them. Return same at our expense and we will refund your money, including any transportation charges you have paid. If you purchase our goods from one of our distributors, this same guarantee holds good, as we stand back of them.

G. B. Lewis Company Watertown, Wis., U.S.A.

Distributers of Lewis Beeware

The following purchase from us in car lots for distribution in their territory:

CALIFORNIA	W. A. Trickey.....	Bishop
COLORADO	Colorado Honey Producers' Association.....	Denver
COLORADO	Grand Junction Fruit Growers' Association.....	Grand Junction
COLORADO	Delta County Fruit Growers' Association.....	Delta
COLORADO	Producers' Association.....	De Beque
COLORADO	A. S. Parson.....	Rocky Ford
COLORADO	Coffin & Foster.....	Rifle
COLORADO	J. Roscoe Miller.....	Montrose
GEORGIA.....	J. J. Wilder.....	Cordele
IDAHO.....	City Grain & Poultry Co.....	Nampa
ILLINOIS.....	Dadant & Sons.....	Hamilton
IOWA.....	Louis Hanssen's Sons.....	Davenport
IOWA.....	Adam A. Clarke.....	Le Mars
IOWA.....	H. J. Pfiffner.....	Emmetsburg
MICHIGAN.....	A. G. Woodman Co.....	Grand Rapids
NEW MEXICO.....	C. F. Reynolds.....	Artesia
NEW MEXICO.....	H. H. Brown.....	La Plata
NEVADA.....	H. Trickey.....	Reno
OHIO.....	Fred W. Muth Co.....	Cincinnati
OREGON.....	Chas. H. Lilly Co.....	Portland
TENNESSEE.....	Otto Schwill & Co.....	Memphis
TEXAS.....	Southwestern Bee Company.....	San Antonio
UTAH.....	Foulger & Sons.....	Ogden
WASHINGTON.....	Chas. H. Lilly Co.....	Seattle
PORTO RICO.....	Fritze, Lundt & Co. S.....	Ponce
ENGLAND.....	H. H. Taylor.....	Welwyn



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C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.

HAMILTON, ILL., JUNE, 1915

Vol. LV.—No. 6

EDITORIAL COMMENTS

Sections by Parcel Post

A section of honey was received at Marengo, sent from Norwich, Conn., by Allen Latham. Concerning it the following note was received:

"I am sending under separate cover a section of honey. I am not sending it to cause you to acquire a liking for the sumac honey, but to illustrate by example a method of sending comb honey by n-mail. I have sent it many times the past winter, and have not had one instance of disaster. Four sections were sent to Chicago, and I particularly asked that its condition be noted. I was informed that it came in perfect condition, and would have gone on to San Francisco as well. I have several times sent as many as ten sections packed this way, but feel rather shaky with the heavier packages. Ten sections demand so much excelsior that the bundle approaches the limit in size. I am always careful to select a section fastened on at least three sides with cells next to the wood sealed. I should not advise trying to send sections which did not have sealed honey next the wood.

"The section I am sending you was produced without separators. I do not use separators on more than a small percentage of my section honey, and question whether I have any more unsalable sections than I used to have when I used separators almost entirely."

The package was mostly a bundle of excelsior, tightly wrapped. The section came in such excellent condition that it would seem that with the precautions taken by Mr. Latham there would be no difficulty as to such shipments. Of course, for such long distances it would hardly be feasible, for it was sent into the 5th zone, the package being

not far from a foot each way and weighing nearly 2½ pounds, so that the postage was 20 cents, but for 7 cents the same package could be sent anywhere within 150 miles.

First a waxed paper enveloped the section. It was then put in a neat carton, enclosing it on all sides. Then a neat wrapping of paper as heavy as ordinary writing-paper. Then a light wooden box open at two ends, wrapped in paper, and about this the excelsior, over which was tied securely two coverings of thin, tough paper.

One would not be likely to suspect that the section was produced without separators, and to most of us the question will occur, "How does he do it?" The only thing unusual in appearance is the section open on four sides. Can that help to dispense with separators? A curious thing is that one looking at or through the section might pronounce it white clover, but would never make the mistake after cutting into it and seeing the distinctly yellow tint of the sumac honey.

C. C. M.

Photographs for Publication

Within not a great many years illustrations by way of half tone pictures made from photographs have become a strong feature in magazines of all kinds, including bee journals. To the many beekeepers who "touch the button," the American Bee Journal is indebted for much that adds interest and beauty to its pages. Yet it sometimes happens that some one with little experience in this particular sends in a

picture that is not available. When this happens it is likely to be as much of a disappointment to the management of the journal as it is to the one sending the photograph. So a hint or two to those who have had little or no experience may be useful.

One of the things of importance is that a photograph be sharp and distinct. Lacking in this respect, the photograph itself may be beautiful, but a half-tone made from it may be so indistinct as to be worthless.

Years ago photographs had a glossy surface, but of late years a soft surface without any glossiness is more in favor. Yet the glossy surface is the right thing if a half-tone is to be made from it.

To be of interest in a bee journal, a picture should of course be in some way related to beekeeping. The most obvious thing in that relation is an apiary. No apiary is so commonplace as to be without interest to a wide-awake beekeeper, and a good picture of one is the next thing to the apiary itself. Don't hesitate to send in a picture because your apiary is not large. To be sure, if any apiary contains a very large number of colonies, that fact alone makes it of interest. But on account of beautiful surroundings, or for some other reason, one may care more to look upon the picture of a dozen hives, or even one or two, than upon some other picture with a large number.

In almost any kind of picture it is desirable to have one or more persons appear, and this applies especially to pictures of apiaries. But the persons should be incidental and not appear as if expecting chief attention. If two or three figures are lined up stiffly in front of the camera, it has the appearance that they are there especially to have

American Bee Journal

their pictures taken, and it was a mere incident that a number of bee-hives happened to be in the vicinity. Instead of that let the person or persons appear just as they would naturally appear at their work, and then there will be a picture of the apiary with one happening to be at work at the time the picture was taken.

It should be nothing strange if the first picture sent should not be available and subsequent ones satisfactory. The "Try, try again" motto applies here. So don't hesitate to send in pictures, and to send more than once. The worst that can happen will be that the publisher will express his regret that the pictures cannot be used. And the regret will be real.

Prevention of Increase

Our forefathers prevented increase by the simple plan of returning the swarm to its hive as often as it issued. Simple, to be sure, but somewhat laborious; for a swarm might issue several times with the old queen, and when the first virgin emerged, there would be swarming until the last virgin was allowed to issue from her cell. But when this happened, there would be no more swarming for the season, and so no increase.

But this plan obliges some one to be on the watch during the middle of the day for several days, and would by no means suit that rather large class of beekeepers who keep a few colonies that they can look after only evenings and mornings.

For such beekeepers a large hive is a first desideratum. It may be a Dadant or a Quinby hive; it may be a 12-frame Langstroth; or it may be a hive of two shallow stories. With such hives there have been apiaries with not more than 5 percent of the colonies swarming, thus lessening the problem of preventing increase. Another desideratum is clipped queens.

As a third factor in making the problem easier, let extracted honey be produced in preference to sections. Then use the Demaree plan to prevent swarming, a plan given to the public years ago by a Kentucky beekeeper, G. W. Demaree, and lately brought forth again as something new. When danger of swarming begins, set beside the hive an empty hive-body, and into this put all the combs with adhering bees except one comb, preferably the one with the least brood. Leave this comb in the old hive, and also the queen. Fill up the hive with empty combs—no matter if a little honey in them—or with frames filled with foundation. Put an excluder over the hive, on this

set the story of brood, killing any queen-cells that may be present, and fill the one vacancy with comb or foundation. A week later queen-cells may or may not be found in this upper story, and if found they must be destroyed. As the brood hatches out of this upper story the bees will fill the empty cells with honey, and the story of brood will become an extracting super.

Some, however, will prefer section honey, and for them the Demaree plan will not work. They may have small hives, not caring to change. So it may be well to give a plan for those who are working for section honey, whether with large hives or small, seeing their bees only evenings and mornings. Queens must be clipped. About once a week look for queen-cells. In about eight days from the time an egg is found in a queen-cell the cell will be sealed. Then a swarm will issue with the old queen, if the beekeeper does not interfere. So it may be as well to put the old queen out of the way a little before this. Then about a week from the time the cell is sealed a virgin will emerge, ready to issue with a swarm. Before she has a chance to hatch, kill all cells but one. That ends the possibility of swarming, and of course also the possibility of increase.

It may not, however, always work so smoothly. By some means you may neglect to notice the queen-cells until the swarm is ready to issue, and actually does issue, and you are not on hand to observe it. Well and good, let it issue. The queen, being clipped, cannot go with the swarm, and after whirling about in the air the swarm will return to the hive. Possibly it may settle on a tree for a time, but it will return, seeing there is no queen with it. The queen may wander off on the ground and be lost. She may find her way back into the hive, and if she does the swarm will issue again in a day or two,

and this will continue for several days, so long as she returns to the hive. It is not very likely, however, to continue the week; either the queen will be lost, or the bees, becoming impatient, will ball and kill her. At any rate, the bees will not go off until a virgin has emerged to go with them. Before that you can surely be on hand to kill all cells but one.

Instead of killing the cells, you may elect to take a different course that has advantages. Before the virgin has time to emerge from her cell, go to the hive each evening after the bees have stopped flying, when it is still, and put your ear to the hive. You will hear all sorts of hummings and buzzings and squeakings, but pay no attention to them unless you hear something especially distinct, loud, and entirely separate from the other noises. Continue listening each evening until you hear that noise, and when you do you will have no sort of question that you are hearing a new sound, the sound of a queen piping. It will be a sharp, clear, long drawn out tone, p-e-e-p, followed by several other tones, each one shorter than the one preceding. In response to it you will hear one or more virgins in their cells replying in a more hurried manner, "quahk, quahk, quahk." Then for a few minutes you will hear nothing but the usual murmurs in the hive, to be followed again by the shrill and deliberate tone of the queen which is at liberty.

Next morning take out the frames one by one, shake or brush all the bees from each one in turn, and kill all the queen-cells found; return the frames to their places and close the hive. Don't worry about the virgin at liberty running over the combs; she will take care of herself, and you are done with swarming and increase for that year.

Other plans may happen to suit your case better; but the one given is simple and efficient.

C. C. M.

MISCELLANEOUS



NEWS ITEMS

Field Meeting at Hamilton.—At the field meeting at Mt. Pleasant, Iowa, last year it was decided to hold a joint meeting of the Iowa, Illinois and Missouri beekeepers' associations at the Dadant apiaries in 1915. Officers of both the Iowa and Illinois associations were present at that time, and Mr. W. B. Moore, of Illinois, and J. W. Stine, of Iowa, were appointed to represent their respective associations in making arrangements for the meeting. R.

A. Holekamp was selected to represent the Missouri association on this committee, as no officer of that association was present.

September 7 has been selected as the date for the meeting, and a conference of inspectors has been called to meet at Keokuk the following day. There are ample hotel accommodations in both Hamilton and Keokuk, and a good attendance is expected. The big dam across the Mississippi, together with a

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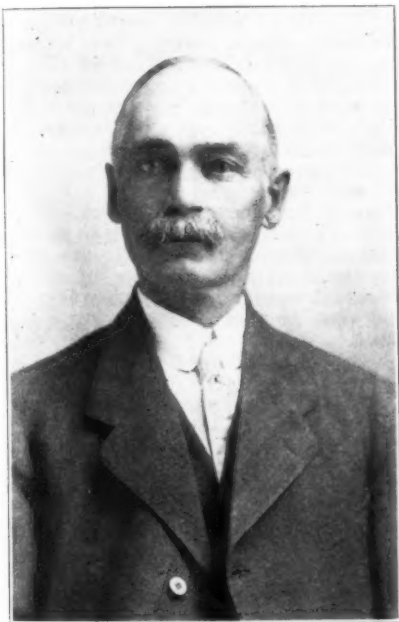
visit to the Dadant apiaries, makes an attractive opportunity to combine a pleasant visit with beekeepers from other localities with a sight-seeing trip worth while. It is expected that prominent bee-men from distant States will be present.

The committee has not as yet arranged the program.

FRANK C. PELLETT.

We will be very glad indeed to entertain our many beekeeping friends here on Sept. 7. As soon as a definite program has been arranged, it will be given in these columns.

W. L. Porter, Caldwell, Idaho.—We had hoped to be able to give our readers a biography of Mr. W. L. Porter, who was for many years the efficient president of the Colorado Honey Producers' Association mentioned in our



W. L. PORTER, OF CALDWELL, IDAHO

April and May numbers. But although we have succeeded in obtaining his photograph, Mr. Porter's modesty has prevented him from giving us any facts about himself. Suffice it to say that he has been and is yet one of the most extensive and successful honey producers in the United States.

Michigan's 50th Annual Meeting.—The oldest beekeepers' Association in the United States will celebrate its 50th annual meeting at Grand Rapids, Mich., on Dec. 15 and 16 next.

The original records of the association, still in good shape, show that Prof. A. J. Cook, now State Commissioner of Horticulture for California, was the first secretary of the association. At that time Prof. Cook was connected with the Michigan State Agricultural College, East Lansing, Mich., teaching

Entomology and Apiculture.

For over 20 years, since Prof. Cook left, beekeeping has not been taught at the college, but in 1913, I had the pleasure of introducing the subject once more. It is a coincidence that the present secretary of the association, after so long a lapse, is connected with the Agricultural College, trying to disseminate the subject of beekeeping, as was the original secretary.

Looking over the records we find the names of many prominent beekeepers who have since gone to their reward. Among others these names are found: Ezra Rood, the first president; Bingham, Gallup, Otis, Taylor, Hilton, Hutchinson, etc.

In one of the early meetings I find that a paper was read by the secretary, on "The Apiary and Its Arrangement," by A. I. Root ("Novice"). Wonder whether Mr. Root can remember this paper? Besides Mr. Root, many other names are prominent; one other, who is still alive, Mr. M. M. Baldridge, of St. Charles, Ill., who read a paper on "The Extractor."

We hope to have many old memories revived at Grand Rapids, so that the present day bee-men may get a glimpse of what the pioneer beekeepers had to contend with.

The association is trying to arrange a meeting that will be a little out of the ordinary, and with the cooperation of the Michigan beekeepers, this should be possible.

We aim to make a special effort to get a good exhibit of honey, and any beekeeper who would like to make an exhibit would do well to write me. By making plans at this time the choice of the crop can be saved and a nice exhibit prepared.

We shall be pleased to receive the dues of any members who have not paid, and from others who would like to join the association. In a future issue we shall have more to say, but do not forget that the dates are Wednesday and Thursday, Dec. 15 and 16, 1915, and the place Grand Rapids, Mich.

F. ERIC MILLEN, Sec.-Treas.

Two Faults Committed by Publishers.

—It is not our custom to insert letters of praise, concerning our Journal, in the reading columns. The reader will find two short exceptions to this rule in this number.

There are two faults committed by publishers which we wish to avoid. One of them is to give special notices, of goods offered for sale, in the reading columns. The other is to cut articles off at the bottom of the page and refer the reader to the other end of the paper or magazine for the continuation, just for the sake of beginning the next page with a flaring headline. We do not approve of either, do you?

Monthly Crop Report.—The monthly crop report of the Secretary of Agriculture, under date of May 10, shows Missouri and Illinois to have the lowest average in percentage of colonies

of bees, condition of colonies and conditions of honey-plants. Let us hope that the future will show an improvement. At the date of this writing, May 15, the ground is too dry and prospects are bad in Hancock Co., Ill. But there has been rain elsewhere.

Investment in Bees.—We have a request from one of our subscribers to ask through these columns what each beekeeper considers a fair estimate of an investment in 100 colonies of bees, and whether wintered out-of-doors or in the cellar.

The Siberian Beekeeper's Ten Commandments.—1. The bee is God's working insect, love her with all your might.

2. Don't be allured by foreign races of bees. The northern bees are just as good for rational beekeeping.

3. Don't grumble at ill-success, don't lose courage. Find the cause of your failure and let it serve as a lesson.

4. Help the bees in their work and learn their life, spring, summer, fall and winter.

5. Prefer strong colonies to weak ones, transfer log hives to frame hives and supersede the old queens, then you will see your apiary flourish.

6. Pack the hives in the fall to keep them warm during winter and spring.

7. Never admix anything to the honey you wish to sell that will spoil its high quality and character.

8. Never supply any one with irregular supplies for the apiary. After harvest, extract the honey with care, but leave enough for wintering.

9. Don't let any one know that, in Amour Province, bad beekeeping is due to your neglect.

10. Be not jealous of the success of your neighbor beekeeper. His example may make you acquainted with the requirements of the bee's life and nature.

REV. A. LUPPOV.

Translated by Peter Schaffhauser.

Beekeepers' Meeting.—There will be a meeting of the New Jersey Beekeepers' Association in Geo. A. Kelley's apiary at Boonton, N. J., June 8, 1915.

E. G. CARR, Sec.-Treas.

Bumblebees Wanted.—I desire to request for observational purposes, a favor through your columns. Would it be agreeable for you to ask editorially, the beekeepers of the country, to send me for identification, bumblebees which may have entered bee hives and have been killed, or bumblebees which beekeepers may see fit to kill in the act of entering a bee-hive?

These specimens may be packed in cotton and shipped in a small box. In each instance, however, I would like a word of information as to where the bumblebee was found, and the name and address of the sender so that due credit may be given.

The material I will explain is desired for classification. A student wishes to determine some interesting points relative to the behavior of bumblebees in relation to bee-hives, and what might

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be called robbing among bumblebees.

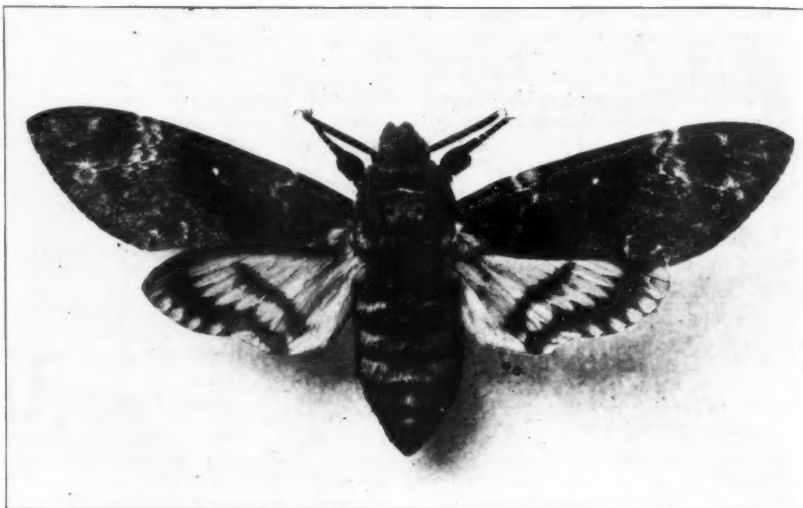
I hope through your courtesy it may be possible to collect a number of specimens from various parts of the country or world should that be possible. I assure you that your interest in this investigation will be greatly appreciated.

B. N. GATES.

Department of Entomology, Amherst, Mass.

Death's-Head Moth.—In our "Notes from Abroad" for April, the readers saw a description and a woodcut of this insect. We did not then know that a kind European friend, M. Pierre Odier, of Céligny, near Geneva, had gone to the trouble of securing for us some photographs of this wonderful insect, which photos were then on the way from Switzerland to us.

We have also since found among our voluminous correspondence from Mr. Langstroth, a letter concerning this insect and the braces which the bees build against it and other intruders. We give a facsimile of his letter. We also add a quotation from the South African Bee Journal on the same subject.



THE DEATH'S-HEAD MOTH (Photographed from life)

especially the 'koper kapel' of the colonists.

"It is to these snakes alone that one should attribute all of the accidents of which the Boers still like to accuse the harmless Atropos sphinx (moth), death's head, that they call the groot

"The Boers have as much horror of the moth as of a snake. They imagine that its proboscis is a poisonous sting, and great was the astonishment of some of them when they saw me touching one of the moths without fear and putting it into my mouth to prove its harmlessness. They were so convinced of its dangerous nature that they thought I wanted to put an end to my life. They were impressed to such an extent, since childhood, with these superstitions that, in spite of all my efforts, I was unable to persuade a single one of them to do what I had done."

Chas. Dadant & Son - Dayton Feb 27 1888
Dear Friend - I mail you to day a small box with what was once a very perfect specimen of such fortifications as Haler said his bees built against the Death's-Head Moth - Sphinx Atropos - It was built to keep the entrance of a hive which was about an inch high - and altho' you may have seen the same kind of work it is the only one I ever met with - You know that Haler has been thought accused of swarming on this point - I am very sorry that one of my little ones mashed it out of shape - perhaps you could restore it - I give as nearly as I can its original shape - the dots show the entrance as left -



Your Friend
S. L. Langstroth

"When the nest (bee-nest) is in a hollow tree, with only a narrow opening, one should avoid thrusting the arm into it to remove the honey, if one does not wish to run the risk of a sudden death or, at the very least, of terrible suffering—different species of venomous snakes hide there readily,

honingbije. This sphinx, more abundant in southern Africa than in Europe, loves honey and dares to go even on the honey-combs; but most frequently one finds it resting on the bark (of the hollow tree), just a few inches from the opening; all those that I obtained were collected in such positions.



THE DEATH'S-HEAD MOTH FROM LIFE

Weighting the Bee-Veil.—In clipping queens this spring, I forgot to put my glasses on and never noticed it until I had a hive open. They were in a case in my vest pocket, and I managed to get them on without removing the veil, dropping the case down inside the veil. I had a happy surprise, there being no more wrinkling or blowing about of the veil. In looking down or looking up, the veil is always straight, but the

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pull is so gentle that it is unperceived. I had thought to get a marble to use in place of the case, but after thinking the matter over, have decided to try a 5-cent rubber ball, and then if it isn't heavy enough will put a little water in until I get the right weight.

Brooklyn, Iowa. B. H. TRIPP.

This plan is similar to one used in some of the Woodman veils which have a heavy piece of cord sewed near the bottom and around the veil to keep it from blowing about.

Attention Minnesota Beekeepers!—In case you have, or suspect your have

disease in your apiaries, communicate at once with me and I will make every effort to reach you without delay.

CHAS. D. BLAKER,
State Inspector of Apiaries.
4420 Grimes Ave., Minneapolis, Minn.

June is Promising.—The bees in Illinois recuperated rapidly from winter dwindling, owing to a mild month of April.

The month of June is opening with a good prospect for white clover in many parts. In Hancock county there is no white clover, owing to the drouth of 1914. But the sweet clover is very promising and the bees are in excellent shape.

if some of the frames are filled with comb foundation.

After driving some smoke upon the combs that are first within reach, if the bees do not get out of the way fast enough to suit you, you can brush them with a wing or wing-feather of a turkey or some other fowl, and indeed a whisk broom may serve, although rather harsh. Never mind if you don't get all the bees off before cutting; you can brush them off afterward.

From what you say there is likely more honey present than the bees need, and you can save for yourself some of the whitest combs; but leave them at least 5 or 10 pounds. You will save carefully all the worker-brood. The drone-brood may be thrown away. You will distinguish it from the more numerous worker-brood by its larger size.

In putting the combs in the frames, it will be well to provide yourself with a bake-board or some other board at least as large as a frame. Lay on this two or three thicknesses of cloth to make a bed for the brood. Provide pieces of tape long enough to reach around a frame and tie. Strips of cotton cloth one-fourth or half-inch wide will do. Lay these across your board, lay your frame on top, and put into it the combs, tie, then raise board and all so the top-bar will be up, and hang your frame in the hive. Of course, you must cut away enough of the combs so they will fit in the frames, and it will be well to have rather a tight fit, so that there must be a little crowding to get the combs into the frame. In gauging the distance apart of your strings, you will be guided somewhat by the size of the pieces of comb put in the frame; the smaller the pieces the more strings.

The hive should be set as near as possible to the place where the bees have been in the habit of entering, encouraging them to adopt the new dwelling. After the bees have become accustomed to the place, say in three or four days, the hive may be moved away 4 or 5 feet each day until you have it where you want it.

BEE-KEEPING FOR WOMEN

Conducted by Miss EMMA M. WILSON, Marengo, Ill.

Bees in Corner of a House

A New York sister writes: "In the summer of 1912 a swarm of bees took possession of a corner of my house, and made its home between the walls. They produced honey all that summer and the summer of 1913. During January, 1914, I opened up the inside wall, taking off lath and plaster, and was fortunate in removing a large quantity of honey, leaving enough for the bees to winter on. I then covered the space with wire screening and put up a temporary door. This spring they had worked very hard, so I thought I might remove more honey. When we took the door away we found the bees had come on the outside of the wire and were living on the honey, getting it through the holes in the wire. "Of course, the most of the colony is on the inside of the wire. I just wish you could see the bees and honey. It seems as if I must take up the honey

it looks so delicious, but some of the elegant white comb is empty. What to do I do not know. If I do not take up any honey the bees will not have any room to work this summer. I wish I knew how to get the bees started in a bureau hive like my father always had.

"Can you tell me what to do? I wish you could look at the honey and bees; it is a beautiful sight, tier after tier of honey and so many bees."

M. ANNA KNOX.

Brewster, New York.

You are to be congratulated that the bees are so easily accessible. You have already had experience in cutting out some of the combs, and all you have to do is to cut out the rest of the combs in the same way. You probably used smoke in driving the bees off the combs you took, and you will need it again. Provide yourself with a movable-frame hive; and it will be better



C. M. CONRAD IN HIS APIARY AT FLANAGAN, ILL.

Shall I Take Up Beekeeping?

"Please tell me if there are many women engaged in beekeeping, and would I be considered out of my place to take it up? I do not know if it is thought to be a work for women or not. I know nothing about the business only as I have read of it, but I have always wanted to have a lot of bees and to care for them. I love them. They never sting me, and I am not afraid of them.

"I am so situated at present that this seems the only way for me to try to earn a living for myself and little daughter. I live on a farm, and there is plenty of room for bee-hives. I cannot raise poultry of any kind, and my eyes are too weak to do fancy work or sewing, so I have turned to beekeeping." [MRS.] BEATRICE QUACO.

Pekin, Ind.

A good many women are engaged in beekeeping, yet rather few compared with the number of men. Just why this is so it is not easy to say, for

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of late years there has been a wonderful increase in the number of women entering different lines of business formerly followed by men alone, while for many years it has been considered entirely appropriate for women to engage in beekeeping. Instead of being crowded out by beekeepers of the sterner sex, they have been welcomed, and at bee conventions the few women attending are always treated with the greatest consideration.

In some respects beekeeping is especially adapted to women, with their deftness and delicate touch. The business can be managed so that there is not much heavy lifting, and when it is needed, a woman with little physical strength can get the help of a man or boy. In many cases, however, there will be an increase of physical strength for the outdoor exercise, together with an absorbing interest, tend directly to an increase of health and strength.

To start with, your love of bees is an important asset. Add to that the study of a good bee-book, such as Dadant's Langstroth, and then begin with two or three colonies, letting your book-knowledge and your practical experience grow together, as also the increase in the number of your colonies. Better, however, be prepared to take a few stings, for if you do very much with bees you may not find them always so considerate of your feelings.

Requeening and Building Up

"The letters in the American Bee Journal have been so much help to me that I am constrained to give my experience in the hope of helping some other novice. I have only had one season's experience, having begun last spring with four gums. These I have increased to ten, getting only about 60 pounds of honey, as the season was very poor.

"I seem to have hit upon an unusual plan for requeening and building up for special honey flow. I take the queen and all the frames from the hive-body except one containing eggs or larvæ, and put in a separate hive-body. I now fill all or nearly all the remaining space in old hive with brood comb or comb foundation. Over this I place one or two supers, then a piece of wire cloth somewhat larger than the super. On this I place the hive-body containing queen and frames with adhering bees, leaving small opening at first at the top under covering, suspending alighting-board near opening. I leave them this way until the honey-flow is on. I then remove the queen and all the frames from the upper hive-body with part of the adhering bees, and put them somewhere else to start again. Be sure that the bees left below in the first operation reared a queen and that she is laying before taking away the old queen.

"If no increase is desired, remove the wire-cloth and kill the queen you least want. If in looking for the queen you have to smoke one colony, be sure to smoke the other else they will fight, otherwise I have had no trouble. If the honey-flow is short and no increase desired, remove all frames and young bees from the upper hive and strengthen the weak colonies or dispose of them

by scattering among other colonies, as they will consume all surplus. After a day or two close the top opening at night, after the field bees are in.

"This method does away with the swarm trouble, but cannot be used for requeening and building up for a honey-flow unless there is some flow of nectar, as the bees in the lower hive-body will rob those above, also other hives. I think the best time is near the end of a flow.

"I advise all half-sick women, and men, too, who can learn to love and like to care for bees to try beekeeping. I can never tell any one how much they have meant to me, coming as they did after a severe operation and long years of semi-invalidism. I spend

hours of pure happiness with them, where otherwise I would have been restless and lonely."

HATTIE L. McMANUS

There are some good features in this plan. When the young queen is reared below, and the old queen and brood taken away from above, all the flying force will still be left, and with no notion of swarming there should be good field work. It will be learned only by trial how well it may be adapted elsewhere. One who with only a single year's experience blazes out a path for herself ought to have a fine career in beekeeping, and further reports will be awaited with interest.

CALIFORNIA BEE-KEEPING

Conducted by J. E. PLEASANTS, Orange, Calif.

The California Outlook

The season here, as has been stated before, started out very favorably, with good winter rains. This is always the prime essential for a honey crop here. The bees bred up early and were, generally speaking, strong in numbers up to April 1. From March 29 to April 20, the weather was very dry. An unusually dry period for the time of year. Things were beginning to look "dubious." But on April 20 there was rain, and this was the beginning of a very moist period of long duration, lasting until May 8.

During this time almost four inches of rain fell, and almost continuously the weather was cloudy and misty. This kept the bees in, and they not only consumed all their stores, but in many instances had to be fed. It was hard on them, especially as European foul-

brood is prevalent in many apiaries.

It is still a mystery how this disease is carried. If this could be learned it would be of much practical help in preventing its spread. I wish we could prevail upon our investigators at the experiment stations to send a few men well qualified to work in the field in infected districts, to work on this one problem.

There was considerable honey taken from the orange flow until the cold, damp weather interfered. Orange flow commenced about April 10, and lasted a month. Extracting from sage and other wild bloom will be delayed about a month. During the last few days the bees have been working finely on sage and hoarhound. There have been reports from different sections of the black sage looking badly, and one or two rather alarming reports from Santa Barbara and Ventura counties



100-COLONY APIARY OF J. E. WHITE AT STERLING CITY, CALIF.

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about the so-called sage weevil.

Our sages here were somewhat affected. In some places black sage looked rather bad. I will quote from a letter from Mr. Mendleson, of Ventura, as to conditions there some 10 days ago: "Weather still very cloudy. The scale hive losing $\frac{1}{2}$ to $\frac{3}{4}$ pounds per day. The worm is making sad havoc in many places in both black and purple sage. It destroys the whole case of the blossom and buds. It has not appeared at my main location yet. Warm sunshiny days will kill the pest. Many are feeding large quantities of syrup to keep the bees alive. A condition I have not seen heretofore. The ground is wet deep. Hot weather will give us the desired honey flow. I have not seen so much moisture before and no nectar secretion, though 1884 was similar. It looks to me as though those having white honey this year ought to get a good price." This was written on May 9.

The desired warm, bright weather

has come, and the black sage is looking much better, and the conditions at present look favorable.

The year 1884 spoken of by Mr. Mendleson was one of great rainfall and a late season for the bees, but we got a fine crop.

The worm that has affected the sage is the larva of a moth, as reported by our Horticultural Commissioner, Mr. Bishop, and not a weevil. He has sent the specimens we took him, to the State Experiment Station for identification. It is a small bluish white worm about $\frac{1}{4}$ inch in length.

With the present honey-flow the bees are perceptibly overcoming European foul brood in the infected apiaries. Of course, this may be only temporary, but the outlook is favorable toward helping to eradicate it to a considerable extent. We have now had six days of bright weather to date, May 15, and the indications are for continued fair weather.

every colony with water. Each row of hives was six layers high, which brought the top hives to the top of the car, or very near it.

Wire screen frames were nailed on top of each hive, and two 2x2 inch strips $3\frac{1}{2}$ feet long were laid on top of each three hives between the alley and the side of the car. These two inch pieces made it possible to spray every colony easily. Nine hives in length and three hives in width on each side of the alley were in one end of the car, and eight hives in length and three hives in width on each side of the alley were in the other end. All were six hives in length. This left nearly all the space between the doors for bracing and for placing the water-cans, pump, and other material.

In the other car, which was a 50-foot automobile car, were placed 186 colonies, most of which were so strong in bees that supers were placed on top to give abundant space for clustering. The covers and supers were placed in the ends of this car, and the 186 colonies were loaded near the doors.

In bracing the sides of the piles of hives in the alley, 1x4 inch stuff was used for uprights with 2x4 inch running across for braces.

The day we loaded was very warm, and the bees were very cross. It was a tedious and painful job, but both cars were loaded on time, and before the cars were 20 miles on the way the bracing was all finished. Fortunately the weather turned cool, and this made it easier on the bees *en route*. This shipment was sent to Filer, Idaho, and was one of the best outfits I have seen, taking condition of bees and hives into consideration.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Using Lye for Cleaning Separators

Several beekeepers have told me that lye makes the wood separators brittle, and that they soon break to pieces. If this is the case, lye should be used with care. Probably the separators, if washed off with clean water at once, would not be seriously affected.

Western Conditions

Bees are building up rapidly and prospects seem favorable in spite of the freeze two weeks ago (or early in May). Alfalfa and sweet clover were frozen down pretty badly, but it will not seriously affect anything but the first crop of alfalfa and make the season some later. Dandelions and fruit bloom are now just past their prime, and many colonies have stored and sealed large amounts of dandelion honey. There will be a large increase in bees this year, if present conditions prevail.

The West will have honey to ship this year, as it has always had some in the past, but whether it is a full crop or a partial one remains to be seen. Sweet clover is in more evidence this year than last, and we hope for a good deal of help from it this year.

Shipping Two Carloads of Bees

Preparing two carloads of bees (800 colonies) for shipment a thousand miles, during the middle of May, is no small task, but for the last two months we have been at it, and the bees were shipped May 13. The colonies were all in 8-frame Langstroth hives with fairly uniform bottom-boards.

A 36-foot cattle car was loaded with 612 colonies. Three rows of hives ran lengthwise of the car on each side of the alley, running the full length of the car. This alley was about two feet wide, and made it possible to spray

CANADIAN BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Prospects for Ontario

Prospects for a crop of honey are fair for the Province of Ontario. In some sections, including York county, the acreage of alsike, which is our main source of honey, is very light. But on the other hand, the clover everywhere is in good shape with practically no winter or spring damage. Rains during the past two weeks have been general and vegetation is looking fine. In many sections the clover is plentiful, and I am glad to say that such is the case at our large apiary up north. Of course the mere fact that we have clover in many parts of the Province does not insure us a crop of clover honey by any means, but when we have no clover we are quite sure there will be no crop.

Conditions in Our Two Yards

The unusually warm weather during the latter part of April that forced vegetation ahead rapidly, has been followed, as is generally the case, by just

the opposite for the first ten days of May. Today, May 12, has been the first day that bees have done anything for about two weeks, and the yellow willows and hard maples passed their period of blooming without the bees getting a taste from them. These are the best early sources of nectar we have in these sections, and as a result of their failure, brood-nests in our York county yards are very light in honey, almost all of it being consumed during the last three weeks, as breeding has been going on rapidly.

At the yard 100 miles north, willows are at their best, and bees are working on them nicely. Strange as it may seem, although these bees are so much farther north than our home apiaries, they are away in advance of our bees at home, half of the apiary being supered, and a few with two supers on. Different reasons account for this, of which the following are the main ones: Total failure of the crop here in York county, and that means a lot of old bees going into winter quarters. Up north we had a late flow of about 5.

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pounds per colony, and that means lots of young bees for winter. Then, again, no requeening was done at the home yards, owing to poor season, while at the north yard nearly all colonies have young queens.

Another factor is that, while our bees at home had sufficient stores for wintering, yet they have not had quite enough in many cases to allow the bees to go ahead rearing brood fast, even if the weather was too cool to allow much gathering of stores, honey or pollen. Up north every hive was filled solid in the fall, owing to the late flow from asters, and the bees have an unlimited source to draw on. In fact, in many cases it is necessary to extract some of the combs so as to give the queens room to lay eggs, as the hives were actually "honey-bound," as we sometimes say. Between the two extremes of having too much honey in the hives, as compared with the prospect of having to feed many here soon, unless fruit bloom yields better than usual, needless to say which I prefer, especially when sugar is as dear as at present.

While it is a little trouble to lighten the brood-nests of honey, yet the work is well paid for, as the honey is fair and sells readily, more than paying for all the work, to say nothing of having the satisfaction of knowing that the colonies are in first-class condition. While fall feeding is a necessity very often in our locality, spring feeding is always a calamity in my judgment, and only practiced when absolutely necessary to avoid starvation and keep brood from suffering.

How to Handle Combs Filled With Candied or Granulated Honey

Quite a number are inquiring as to what to do with combs filled with candied or granulated honey. Some are melting them, thinking that the only way to get rid of the honey in the combs. I have a few of these combs filled with honey from the hard maple a year ago, and I shall not melt them up unless it is absolutely necessary. If these combs are given to strong colonies later on in the season, I feel sure they will be all right, for even if some of this honey is thrown out by the bees, that is better than melting up good combs.

In looking at a few such combs today I could see quite a difference already, as the honey was much softer than a few weeks ago. With real warm weather later on, I feel sure that everything will be all right, so go slowly in melting up good brood-combs that are worth as much as real cash to the beekeeper.

Old Combs

"The older the combs of the brood-chamber the more cocoons they contain," page 152, May American Bee Journal. I wonder if that is strictly a fact, or is there a limit to the amount of cocoons the bees allow to gather in the cells. Today I have been handling some combs that must be at least 35 years old; perhaps they are 40. They were used by my grandfather, and he has been dead about 25 years. In so far as I could see, these combs had



A GROUP OF BEE ENTHUSIASTS AT A FIELD MEET IN HARRISON, ONTARIO

cells just as large as combs only two or three years old, and the bees hatched in them were just as normal in one comb as in another. It hardly seems reasonable to believe that these cells have cocoons of 40 years' accumulation, and I am of the opinion that the bees in some way remove the cocoons when they begin to interfere too much with the normal size of the cells.

Beekeeping in North Carolina

Inquiries are coming in to me as to the possibilities of beekeeping in North Carolina. This is because my father "winters" in that State, and thinks so highly of it as a bee country. I have little first hand information of the country aside from what father tells me, and even if I knew all about the place, perhaps our North Carolina beekeeping friends might not thank me for telling it publicly.

My father stays near Democrat, a

small village about 20 miles from Asheville. I understand that around the latter place it is not very good for beekeeping, as there is a lot of scrub oak and other things that do not produce honey. Where father visits they produce beautiful honey. I have *prima facie* evidence in a pail of splendid basswood honey, for which my tanks are due Mr. Samms, of Mars' Hill.

Two years ago some other friends sent me samples of locust, and from another source of which I am not sure as to name, and in both cases the honey was delicious and as good as we produce here in Ontario, and that is "going some." No doubt there are difficulties, as elsewhere, and the beekeepers' path is not all a bed of roses, but I think that North Carolina is a pretty good place to keep bees. Poor roads are very much in evidence, I believe, and the transportation question in the matter of establishing apiaries, etc., is one of the main drawbacks of the country.

NOTES FROM ABROAD

BY C. P. DADANT.

Nice, a well-named city, was our next stopping point. Those of our readers who have followed these "Notes," since the beginning, will perhaps remember that, in the number for February, 1914, I made mention of a college mate who had become a general in the French army. His headquarters were at Nice. We had not met each other for 50 years, not since our boyhood, when we had sat side by side on the college benches. It was a treat to meet him. However, our pleasure was marred by two incidents. A trolley accident had killed 17 soldiers of the garrison two days previously, and an immense military funeral was under way when we

arrived. In addition, my wife was made sick by some accidental cause. I had to hunt up a doctor. This was not a very pleasant thing to do when you are 4000 miles away from home. The physician attributed her complaint to ptomaine poisoning, and advised a couple days of rest. We were thus tied down for a short time. This was the only unpleasant incident in the entire voyage.

I called at the home of Mr. Baldensperger, who is one of the oldest and most experienced apiarists of the Old World, and whose home is at Nice, but he was at his country place, some 30 miles away. The neighbor lady who

American Bee Journal

imparted this information to me took my card and promptly shut her door in my face, as if I had been a burglar.

So, aside from our visit with my old comrade, our stay in Nice was not very nice. We can't have everything always as we would wish. But the weather was delightful.

We had a very graceful invitation from the beekeepers of Marseille (in English Marseilles) to stop there for a couple of days. We had set the day and they were expecting us. Our mishap delayed us 24 hours. So we sent them a telegram. When we reached the hotel in that city, we found two letters informing us that they would call upon us as soon as they were apprised of our arrival.

If you want to see whole-hearted, enthusiastic people, go to Marseille or Bordeaux. They welcomed us, they overwhelmed us. We spent two days in a whirlwind of enjoyment and entertainment.

They first took us to the "Cannebière," which is the "grand boulevard" of Marseille. As the Marseillais are choke-full of fun, and proud of their city, they say: "If Paris only had a Cannebière, it would be a little Marseille." They also inform the visitor that the Cannebière leads all the way to New York, the only thing necessary being to walk down to the port and take a ship for the latter city. Luckily, they told us, a large sardine, which encumbered the entrance to the port, had just been caught.

A very interesting trip, which we made at once, was a visit to the "Frioul," an island about two miles out in the bay, in which Mr. Barthélemy, the manager of the experimental apiary, has begun select queen-rearing, by bringing there some choice colonies of both queens and drones. However, the experiment is yet in its initial stage, only a few queens having been fertilized thus far. The hives are located in an old stone building close to the water's edge. I suggested to him the selection of a better spot, a little more remote from the seashore. I know by my experience along the Mississippi, that queens easily become dazzled by the reflection of the sun in the water and drown. As the island is

hilly and has a little valley in its center, it should be possible to secure a number of good matings. The isolation is complete, for the nearest shore is a thickly built port. There can be but little inducement for the bees to cross the intervening space between the cultivated suburbs back of the city and this island. It is a more positive isolation than that of the Swiss mating stations.

On the way to this island we passed the "Chateau d'If," renowned by the fame of Alexander Dumas' novel, "Monte Cristo." It is a barren, ugly ruin, but is regularly visited by tourists, while the Frioul, being a fortified naval spot is not open to strangers. I could not have visited it without the escort of our beekeeping friends.

The local association publishes a "Revue d'Apiculture," and possesses an experimental apiary, under the care of Mr. Barthélemy, already mentioned, who is also a teacher in beekeeping.

On the second day of our stay, we were offered an "informal lunch," which turned out to be a great banquet, with some 30 persons present. There we had occasion to try the local dishes, some "sea urchins" or echinoderms, a round fish resembling a large chestnut with its thorny outer shell; also the famous "bouillabaisse," composed of all sorts of fishes, with special sauce. We might say here that in each country we found new dishes and made it a point to try everything.

After the banquet, speeches were made and toasts offered. It was a pleasurable occasion, at which a number of ladies were present. In the afternoon an excursion was made to an apiary, that of Mr. Vinay, some four or five miles away, in the suburbs.

A method of cure of American foulbrood by the use of drugs was described to me, by Mr. Barthélemy, and I must say that I was, at first, very skeptical on this subject. He asserted that they had discovered very light cases, only a few dozen cells being diseased in each colony. But it was positively the ropy, coffee-colored disease. They had treated it by injections of formal, a 40 percent solution of formaldehyde, in each of the cells containing diseased or dead larvæ, besides

spraying the diseased combs very lightly with this solution and burning, in the smoker, rags which had been sprinkled with the same drug. They also had fed the colonies affected with a solution of honey containing $\frac{1}{2}$ gram (5 grains) of betanaphthol to the quart. Several colonies in this apiary had been treated as above in May and June, and when I visited it, in

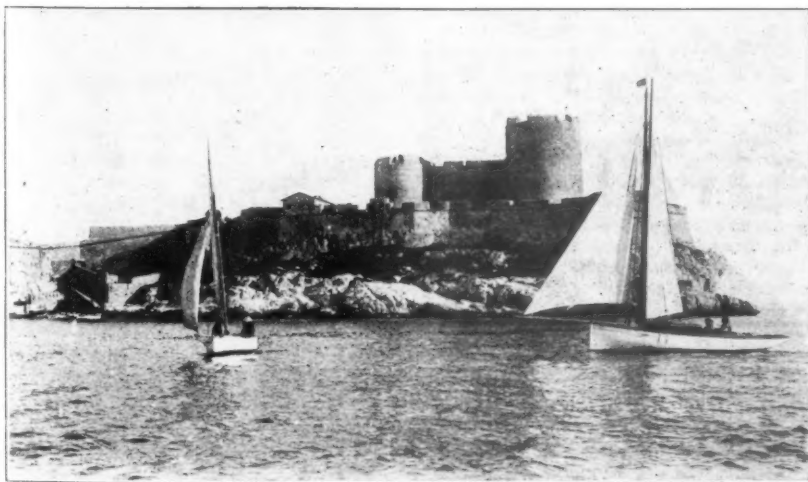


MR. BARTHELEMY OF MARSEILLES

September, I was unable to find a single diseased larva, although we opened three or four colonies which had been diseased.

However, these had been very mild cases, and I would hesitate to recommend the method for anything serious. Several hours' work is required for each colony, and it becomes necessary to protect them efficiently against robbers while the treatment is being given, unless the honey crop is on. During the honey crop is really the best time to make any operations in foulbrood treatment.

The vicinity of Marseille is a good honey-producing region. In the valley of the Rhône, they have fruit trees, sainfoin and alfalfa. On the mountains to the northeast, they have the heather of which I have spoken already several times. This plant gives very dark, thick honey, strong in taste. Its pollen is of light color, although the anthers which envelop it are brown. The wax produced from this dark honey is very light in color, while that from the white sainfoin is of deep yellow shade. That the comb is usually colored by the pollen of the plants harvested during its production does not admit of a doubt. The only question is whether the coloring is due to the consumption of this pollen by the bees or to a simple mechanical action, due to the fall of pollen grains upon the fresh-built comb from the hairs of the worker bees during harvest. This sub-



VIEW OF THE CHATEAU D'IF AT MARSEILLES

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ject has been much discussed, but is not yet settled. I had hoped to get light upon it during our voyage. I failed. An article from Dr. Planta, in the *Revue Internationale*, in 1885, is the only thing that throws a partial light upon it. It needs further investigation.

Marseille has a very pleasant climate, though less sunny than that of the Riviera, from Nice to Spezia. It rarely freezes there, and the bees sometimes gather honey as late as December, I was told. However, the winter of 1913-14 has been an exception, and a picture of "Marseille Under the Snow," dated Jan. 14, 1914, was forwarded to us later.

We were to be back from the country trip at 5:30 p.m., as one of the apirists, Dr. Vallette, had kindly offered to take us in his automobile to a sea-shore ride, around the "Corniche," but what with the bee-talks, hive opening, photo taking, and the trolley delays, we were not back until late, and our sea-shore ride was taken mostly in the dark. I must not forget that we also, during the forenoon, visited Notre-Dame-De-La-Garde. This is a church on a very high cliff above the city. The bird's-eye view of that large city of half a million souls, the port, the ves-

sels, the islands and the Mediterranean sea, will long be remembered by us.

I cannot close this letter without mentioning the courtesy of the president of the association and of his lady, Mr. and Mrs. Sirvent, who invited us to come again and made us the promise of a gathering together of 150 beekeepers at our next visit. We would like to say something about each of the kind friends who welcomed us. To show them we have not forgotten them we will send each of them a copy of this number.

On the morning of a delightful day, Sept. 26, we made the longest trip of our European travels. We crossed southern France from east to west, mainly among vineyards. We passed Tarascon, famous from Daudet's *Tartarin*; Beaucaire, a village whose name is as familiar to French children as that of Yankee Doodle to American children; Nîmes, noted for its old Roman arena; Narbonne, listed on the Baedeker guide for its "miel fameux" famed honey, harvested, we are told, from sainfoin; Carcassonne, the city of 54 towers, and at 9:30 p.m., we reached the little city of Lavardac, where Mr. Cout rel, one of the great honey producers of France, was awaiting us at the station.

Red Stickers and put them up. Others will be doing it for you, and *it will pay*. Now, while the red stickers are all right for *national* and world-wide advertising it is not the *local* thing we want. That is the complaint I have had, in scores of letters. Therefore, I offer you the result of my later study, as follows:

EAT BONNEY HONEY

Let this, like the Little Red Stickers, be in red ink, and while I first used "Bonney Honey" on account of the rhythm, I had decided that Jones honey or Dadant honey, or even Katzenhammer honey is just as good a name as Bonney honey for *your individual locality and use*. You need nothing more there, and for 20 or 40 miles around, but when you begin to branch out add your name and address. I have before me as I write, a letter from the editor of the *Policeman's Monthly*, a magazine published in New York city, and in it he says: "I have read so much about Bonney honey that I feel I *must* taste it. Would it be possible to send a jar to me, a quart or so, and enclose bill for same?" He had seen

CONTRIBUTED



ARTICLES

Advertising

BY A. F. BONNEY.

In a recent mail I received a letter, asking if I thought the beekeepers of the United States could get a department in the "Patent Insides" of rural newspapers and thereby advertise honey. At the same time I was asked for any other suggestion regarding advertising honey. I had to say no to the first question, and I asked the writer something like this:

"If the present demand for honey in the United States is about 25 cents per capita, and the present supply about 40 cents per capita, how much can we afford to pay out for advertising to increase the demand 15 cents per capita?"

I left him to answer, but thought to myself that there *seems* to be an excess supply of 15 cents worth of honey in this country; that is, 15 cents worth per capita, and I said to myself, "A *surplus* is the hardest thing in the world to sell by advertising."

I gave the beekeeping world the Little Red Sticker, and our State inspector writes me that I would be surprised how general they are in use. "I see them everywhere," he flattered and pleased me.

But I could not help remembering that some mighty smart beekeepers did not seem to grasp my idea of using the Red Stickers. Even Mr. Byer did not catch on, for I remember he said it would not pay him to use them, as he "had no honey to sell."

Again I want to call attention to the Little Red Sticker, and explain. It was

gotten up for *national* honey advertising. It was conceived for the benefit of every beekeeper in *the world*, for if

EAT HONEY

were put on every letter sent out from the offices and homes of beekeepers, put on railway coaches, freight cars, depot windows—never mind what the agent says—on farmers' wagons and store windows, and send a few to friends and relatives, asking them to stick them up, it would not be long before we would begin to make an impression. One thousand of the Little Red Stickers to each 1000 beekeepers means a million stickers, at the funny little noise of 35 cents per man.

Now it is well known that five people read each newspaper. One thousand newspapers would, therefore, be read by 5000 persons, *but* not one person in ten would read a one-inch honey ad. Therefore, the number of readers is at once cut down to 500 persons.

In the case of the Little Red Stickers, 10, 20, even a hundred persons will read each one stuck up in public places. One hundred thousand readers for each thousand red stickers put up is not too large an estimate, because each one in place has a long lease of life, while the newspaper is old in a week, for a country paper, and in a day for a city daily.

Be sociable. Buy at least 1000 Little

stamped on the envelopes I used in which to send stories to the publication. I have received orders from mail clerks, and they came addressed,

EAT BONNEY HONEY

EAT BONNEY HONEY

Buck Grove, Iowa."

This is a good, cheap, efficient and persistent form of advertising. You may think possibly that a constant reading by the people around you of a red sticker will not have the desired effect. Perhaps they will not call you out of bed at 2:00 a.m. to tell you they saw one, but, like myself, you will find it the constant advertising drop that wears away the stone.

As to the cost, the initial expense will be about \$2.00 for drawing and zinc etching, and a matter of 25 to 35 cents each for electrotypes. Say \$3.00 to \$5.00 for the first thousand. After that they can be printed and gummed for about 40 to 50 cents a thousand. In addition you have the electrotypes to use on letter heads and other things. Were I producing section honey I'd have every section printed

EAT BONNEY HONEY

This could be done with a rubber stamp in carmine ink, or on one side

American Bee Journal

where scraping need not disturb it before the section is put together.

I might mention that I find it pays for me to sign many of my letters

EAT BONNEY HONEY,
Buck Grove, Iowa.

Frame-Nailing Devices

BY J. L. BYER.

WHILE no one will question the fact that beekeeping in common with other pursuits is making, and has been making progress, some of the so-called new inventions are either not new or are not as good as some methods that were practiced many years ago. This is particularly true in regard to devices for holding frames for nailing, in a solid position, and at the same time permitting accurate and rapid work.

At our last convention a good friend of mine illustrated by actual practice a device put out by a well known author in the United States. The method, while practical enough in so far as being able to do the job, was nevertheless almost universally condemned by those present as being too intricate and slow a process to justify its use when simpler methods would do the work quicker and with less trouble.

The illustrations herewith given, are taken from photographs of a device made by my great uncle, deceased some 20 years. It was made by him over 40 years ago, and is still giving good service in the hands of a son-in-law. We use a similar one, but of much neater construction, made by my grandfather about the same time, but as mine happened to be stored away for the winter in an upper room of an out-building, I walked a half mile and took a picture

of the machine shown. As will be seen by the illustrations, the device is made of inch lumber and stands on four ends in an upright position, the legs on each side being about 3 feet apart at the bottom while they join at the top. These supports are of strips 1 inch by 2, but can be made as strong as desired. When built, the device is high enough to admit of a man standing in front and working in a comfortable position. No. 1 shows front view. The square block at the top should be the exact size of the frame to be nailed up, and is simply an inch board nailed fast to the front frame, which consists of inch lumber.

In placing in frame for nailing, the top-bar is laid flat in space between this block and board beneath, the end-bars are put in place, and the bottom-bar is also put in position on top of this

machine in a half day at the most.

If the front block at the top is made exactly on the square, and is the correct size of the frame, the nailed frame will be exactly square even if nailed by the greenest operator. This is one of the great advantages of this simple arrangement, in that unskilled labor can be employed and at the same time accurate work will be accomplished. As to quick work, it is surprising how large a number of completed frames can be turned out by a quick mover in a very short time. With slight variations, this machine may be constructed so as to allow the operator to be seated while at work, and in no way interfere with its efficiency. I have seen a good many devices for holding frames to be nailed, but we must yet see something better than ever, before abandoning our "old reliable."

Markham, Ont.

A Letter from Canada

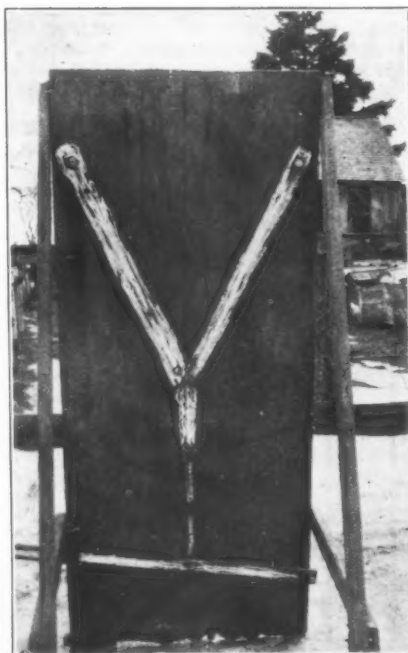
BY MORLEY PETTIT.

THINK I find every number of the American Bee Journal a little bit better than the last. The May number, which has just come to hand, is particularly interesting. I feel like making a few comments upon some of its features. After admiring the beautiful cover picture of blossoms on which unfortunately I could not discover any bees working, the next thing that attracted my attention was Dr. Miller's editorial on "Beekeeping in Canada."

We are finding again this first week of May, the value of the extra protection which outdoor wintered bees have during the spring, or which is given to bees taken from the cellar according to our experiment, No. 4. During the latter part of April we had temperatures ranging between 80 and 90 degrees for several days. With plenty of stores, plenty of pollen and some honey coming in, it will easily be seen how the brood-nest would be expanded under those conditions of temperature. There was then a sudden drop of 20 to 30 degrees, followed by a decline of the thermometer until a few nights we were afraid of frost, and frosty nights are almost certain to come between now and settled warm weather.

Of course, cellar-wintered bees were all out on the summer stands some time before this hot weather came, and when one drives through the country and sees these colonies in single-walled hives with frequently just a thin board cover, standing out in exposed places, one does not need to be a prophet to know how the brood is suffering and what a set-back those colonies are getting. On the other hand, colonies which are warmly packed would not feel the cold so much at the present time. In other words, the packing prevents the extreme changes and allows the steady and fairly rapid development of the colonies under the extremes of temperature to which they are subject in this country.

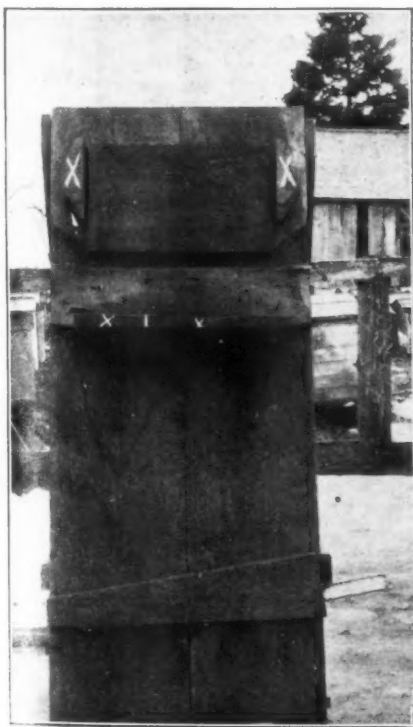
In reply to Dr. Miller's last paragraph, where he wonders if Mr. Pettit would make his affidavit that among the 2846 colonies reported black bees there are 100 sure enough simon-pure blacks. I think there would be a



REAR VIEW, DEVICE FOR HOLDING FRAMES ON THE SQUARE FOR NAILING

block. The foot lever, projecting at right side of the machine, shown near bottom, is first raised with the foot to allow pieces of frame to be placed as described. Once in place, the lever is jammed down with the foot, and the small blocks marked with a cross move down and firmly hold frame on the square while nailing is done. Small crosses lower down indicate nail box, with various nails required, there being three compartments in the one illustrated.

A glance at the rear view of the device, shows the construction which is very simple. The two pieces at the top are fastened to the small blocks marked with a cross on the opposite side, with wooden pins. They connect at the bottom with upright made, in this case, of a heavy piece of corrugated iron. The way it is fastened to the foot lever is easily seen, and any one with a few rough pieces of lumber and the tools ordinarily found around any work shop, could construct a similar



FRONT VIEW, DEVICE FOR HOLDING FRAMES FOR NAILING

American Bee Journal

few hundred that were quite innocent of any Italian blood, although probably not all of the 2846. One thing sure, and that is that there are not nearly as many black bees as there were before European foulbrood came along.

Wesley Foster usually says wisely, and when he proposes an apiarists' clearing house, he is up to his usual standard. I have found it necessary to act in that capacity more or less ever since becoming Provincial Apiarist of Ontario. Those who wish help write to me and those who wish employment, and sometimes I have been able to get the two together. We are also developing at the Ontario Agricultural College a civil service school in beekeeping, as it were, in so far as that term might be applied to our regular and short course students. About 15 colleges in the United States and two in Canada are now getting instruction in beekeeping. As these courses develop and receive the encouragement of beekeepers a constant supply of assistants and managers should be available in the different States and Provinces. I do not quite see how this work of examining and training could be undertaken by an association as such.

Guelph, Ont., May 6.

A New Sweet Clover

BY FRANK C. PELLETT.

PROF. N. E. HANSEN, of the South Dakota State Agricultural College, who has made four trips to Siberia in search of plants suited to the dry uplands of western South Dakota, is now offering for trial in that State a few plants raised from seed which he gathered near Semipalatinsk in 1913. Prof. Hansen has made a number of journeys in the capacity of agricultural explorer, and has introduced a number of things which are proving to be valuable acquisitions.

The two forms of sweet clover already widely introduced in this country are *Melilotus alba*, the white form which is now coming into favor as a forage plant, and *Melilotus officinalis*, the yellow kind which is generally regarded as inferior to the white form. In "Plant Life of Alabama," I find that there is also another kind, *Melilotus indica* which comes from the warmer parts of Europe, and which not only occurs in Alabama, but is also naturalized in South Carolina, Florida and Mississippi. This is said to be a small flowered annual, also of a yellow color.

The plant lately introduced by Prof. Hansen is *Melilotus dentatus*, and is described as "A tall yellow-flowered sweet clover from the Semipalatinsk region. Seeds very large, stems red tinted. Preliminary feeding tests at the Imperial Agricultural College at Moscow, Russia, indicate that the cattle prefer it to the common sweet clover." It is also said to be superior as a pasture plant in that it is less odorous.

Beekeepers living in South Dakota should get into touch with Prof. Hansen and give this new and promising plant a trial. It is to be hoped that a supply will soon be available to those of us who live in other States as well.

There is so much interest in sweet clover among farmers generally that beekeepers will now find it easy to get a really valuable new kind of this plant introduced widely.

Atlantic, Iowa.

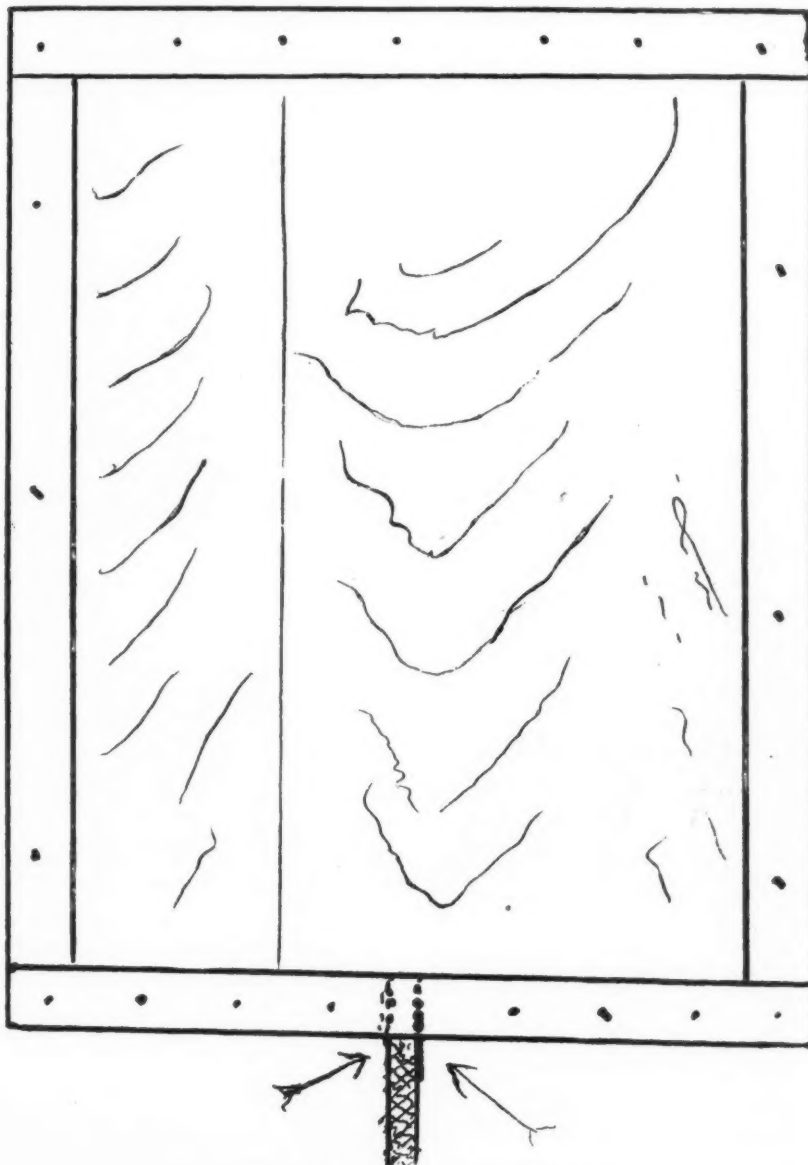
A Cheap Bee Escape

BY J. E. CRANE.

ASIDE from the invention of the movable comb hive, there are few improvements in beekeeping that have given us greater pleasure or enjoyment than the "bee-escape." As we take up the subject, our mind reverts to the methods formerly used to get the bees out of the supers. If we go back 50 years the favorite method was to take off the boxes, as they were then called, and place them in a darkened cellar with a small opening in the window for the bees to fly out, and one man told me how, when he went to get his well filled boxes, the "pesky bees" had robbed them and he had only

empty combs for his pains. Another told me of his equally sad experience in placing his surplus in his wood room and leaving the windows up "just a little." "You wouldn't have thought of it would you?"

Moses Quinby recommended placing supers in a box and covering with cotton sheets and then turning them frequently, allowing the bees on the turned-up side of the sheet to fly away while another lot collected on the underside again. This method worked very well if honey was coming in or the bees in the super were well filled with honey, but if otherwise the bees as they left would not unfrequently break the cappings and take a load home with them, sometimes to such an extent as to render many combs unsightly, if in glass boxes. With the advent of supers of sections it has been an easy matter to blow smoke down between the sections and drive a large part of the bees out at once, and then with our large dry goods boxes to put our supers in and cover with cotton, we could easily get rid of the rest. But



J. E. CRANE'S ESCAPE BOARD

American Bee Journal

even then, at the close of the honey harvest, we would find more or less broken cappings and more or less honey removed.

Then visions arise of taking off honey at our out-yards, and out of the boxes and into the house, and scraping the bits of wax off the supers, and the oft-repeated circus of loading the honey and hitching the horse to the wagon and getting started for home. The bees having taken a load of honey as they left the supers and carried it to their hives are "stirred up," and come back determined to leave no stone unturned or crack unnoticed that promised another load, and because they did not find it they did not fail to give us their opinion of such doings.

With a good supply of bee-escapes all this is changed. When our honey is ready to come off, we may now take a lot of escapes, go to the yard and slip them under as many supers as needed to make a good load, and perhaps on our way home do the same in another yard. In a day or two we can take these supers off, slip the escapes under another lot of supers, load up our honey after scraping off any wax from the underside, and leave without the bees hardly knowing what has happened.

What a change! And the old dry goods boxes lie unused, and it is as easy now to go to an out-yard and get a load of honey as to go into the fields to get a load of hay, and not much more danger of getting stung if we are careful; and all comes from the use of "bee-escapes." But not all improvements are perfect at first. The first steam locomotive was a plaything compared to our modern engines. We had bee-escapes before the "Porter" was brought out, but they were crude compared to this popular escape. That it is not quite perfect seems evident since we often find the bees slow in leaving the super.

Mr. Geo. A. Boyum, in the American Bee Journal for August, 1914, suggests an improvement that is supposed to hasten the pace of the bees leaving the super, which may prove of some value. Permit me to introduce to the readers of the American Bee Journal another bee-escape, gotten up by a friend of mine, that is even simpler and cheaper, and I believe will work more satisfactorily. I enclose a draft of it that it may be more easily understood. It is little more than a specially constructed honey-board and can be used as a honey-board or escape at the will of the bee-master. In fact, my friend uses it on his hives nearly the year around as a honey-board.

It is a board with a rim one inch deep and $1\frac{7}{8}$ inches thick, forming a shallow box one inch deep, the size of the top of the brood chamber. Through one end of this rim a $\frac{3}{8}$ -inch hole is bored with a bit, and a piece of wire-cloth that has been rolled around a lead pencil or other $\frac{1}{4}$ -inch roll, inserted into the hole, and we have a complete bee-escape. The wire-cloth roll should be 3-inches long. When used as a honey-board pull out the wire tube and insert in its place a little wad of paper or cotton, or a cork, and you have the best kind of a honey-board. When covered by a telescopic cover, which all single-walled hives should

have, it forms a dead-air space on top of the brood-chamber, protecting it from the cold of winter and early spring, or the excessive heat of mid-summer. There are other uses to which it can be put, but I will not mention them at this time.

As an escape, after a super is placed over it, there is no passage to the brood-chamber or odor coming up through it to the bees in the super. The wire tube lets in some light when the bees are not passing out through it, so they recognize at once the exit and pile out about as fast as they can when once they realize their isolated condition. It might be thought that there is danger of the bees coming back and entering the super, but they do not, as the small size of the tube and sharp ends of the wire make it very difficult if not impossible to enter through it; so they content themselves in trying to get in at the base of the tube where the arrows are shown.

Middlebury, Vt.

The Charm of an English Apiary

BY A. H. BOWEN.

THE Cotswold Hills of sunny Gloucestershire are noted for something else beside their villages of Gothic quaintness, the upland scenery and the trout streams—they are noted for bees and honey.

It is bee-hives everywhere. They are kept in old-fashioned gardens amongst the rosemary and wild thyme—quaint straw skeps bound by a wooden hoop or two; and you come across them in large apiaries of a hundred colonies or more, surrounded by rolling fields of purple sainfoin, of yellow charlock, and the unpretentious white clover, from which the bees gather so much. Usually they are found in the shelter of a wood, so that the blasts of winter are tempered, and the bees can sleep in warmth and quietness.

From the windows of the honey-house you can look out at the hives

stretching away like long white lines in the distance, and at no time of the year do they look better than when tiered with the heavily laden supers.

Every month from spring onward brings its work in the Cotswold apiary. The first examination of the year is a particularly interesting one. On arrival the smoker is primed from a box of decayed wood, and veils are put on; for the examination of the hives may entail some stings before it is over. The brood-nests are examined to see if the queen is all right and food plentiful, clean floor boards are substituted for soiled ones, and new hives for those that are leaky, or in need of repairs.

Then comes the time for adding the supers, and the long, hot June days when the bees begin to swarm, and you have many a climb among the branches of the sycamore tree, reclaiming those that lodged higher than the rest. During the height of the season work is often carried into the night; the extracting of honey goes on merrily within the honey house.

The charm of Cotswold apiary is in its quietness, its peacefulness, when the bees and birds revel in the sweet summer sunshine; and the bee-master himself may enjoy the wealth and beauty of nature's glorious handiwork.

Cheltenham, England.

Alfalfa in Italy

BY D. BARONE.

WITH growing interest I am reading "Notes from Abroad," as perhaps do all the readers of the American Bee Journal. Nothing worthy of remark was unobserved by the editor's scrutinizing eyes. So the smallest act of dutiful hospitality by the European beekeepers had echo in your mind.

"What a pleasure it is to find so hearty a welcome! The Italians are hospitable." I, Italian by birth, mind and hearth, know how much truth is in your words. I hope many will follow your example when the calm takes the place of the hurricane, which, by its



A COTTAGER'S APIARY IN GLOUCESTERSHIRE, ENGLAND

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rage, threatens now to ruin the wise and patient work of centuries. By becoming better acquainted, we shall learn then to admire and esteem each other, with advantage to our industry.

Permit me to give shortly to the American beekeepers more accurate information about the three principal honey sources of Italy, to which you refer in the March number.

The three plants in order of importance from the viewpoint of beekeeping, are the *sulla*, the *lupinella*, the *erba medica*. The *sulla* (*Hedysarum coronarium*—don't confuse it with the sainfoin), with its flowers bright purple colored, wants strictly a clay soil. It is a hay plant of first-class, and holds first place in yielding honey. It grows rankly and spontaneously in central, meridional Italy and in Sicily. If I am not mistaken, it does not withstand very well temperatures below —5 centigrades (23 degrees F.). The *lupinella* or *crocetta* (*Onobrychis sativa*) is nothing more than the esparcet or sainfoin, and not "a variety of the lupine," as you say. (In gathering your notes you fell unwittingly into error.)

Its flowers are rosy-colored, and it is the best regenerator of poor and exhausted land, especially sandy, though it seems to accommodate itself to every kind of soil. It is less exigent than the *sulla*, and better supports low temperatures. Both blossom during June, and yield one cut only, yearly, of excellent hay, and sometimes in rainy summers a second one, but much inferior to the first. From this very best hay splendid results are attained in fattening cattle, especially if mixed with alfalfa hay.

On the other hand, in the interest of

the beekeeper, I add without the least shadow of exaggeration, that conditions being favorable, the finest honey harvested from the bloom of these two valuable hay plants averages 200 pounds and more per colony.

Why can we not grow them in this country? If memory does not betray me, six or seven years ago, Mr. Frank Benton, during his trip through Italy, was offered seeds of *sulla* from members of the Federation Apistica Italiana.

Did Mr. Benton experiment with them? And if so, what result did he get? Last year, just near Harper's Ferry, Iowa, I saw growing in poor sandy land, alfalfa phthisical and stunted. Doubtless the test there was negative. Why not introduce at least the *lupinella* where the alfalfa gave so poor results? I think the substitution would be doubly profitable, to the farmers and the beekeepers. The first would certainly better their worthless land, and would at the same time give appetizing hay. The latter would add to the clover one more very rich source of honey.

I will say nothing about the *erba medica* (*Medicago sativa*). It is nothing more than the alfalfa. In passing let me recall a circumstance worthy of note. The alfalfa was introduced into Italy not many years ago, and because of its undoubted value it is grown now all over the peninsula. During the first years it was of no aid to the beekeepers. Its bloom did not yield honey at all. A few years since, however, it was noted that the bees were going oftener on its flowers, and in some regions with encouraging results.

Why?

These three hay plants, the cham-

pions of the leguminous, receive the best care from the Italian farmers. Indeed, they owe to them not only the regeneration of their fields, exhausted by a culture of many centuries, but the development of the cattle industry, wonderfully growing year by year. They employ them for rotation, restoring the nitrogen to the soil. One year wheat, one year corn, two years one of the hay plants.

New York, N. Y.

[In the description of the *hedysarum*, we were led astray by the Larousse Dictionary and the Bonnier "Nouvelle Flore." Both range this plant under the popular name of sainfoin. Larousse calls the *sulla* "sainfoin à bouquets." Many thanks for the correction.—Ed.]

No. 6.—The Honey-Producing Plants

BY FRANK C. PELLETT.

(Photographs by the author.)

A LOCATION that furnishes an abundance of early pollen, and some nectar for spring brood-rearing, is greatly to be desired. If the beekeeper finds it necessary to resort to meal or similar substitutes for pollen, he is at a great disadvantage, to say the least. During my early experience I was much puzzled by the discussions of the various substitutes for pollen, for in my locality there is natural pollen to be had almost as soon as the days are warm enough for the bees to fly, in spring. This season, the bees only had about two good flights, ahead



PART OF A COTSWOLD OUT-APIARY

of the day on which they began to bring pollen to the hive. The spring was very late, and Easter Sunday was the first really warm day we had.

On visiting the hives, I found that the bees were bringing in pollen, and on investigation found the soft maples in bloom. Barring killing frost or other extraordinary condition there will be hardly a day from the first warm days of spring until the freezing



FIG. 23.—PUSSY WILLOW BLOOM

weather of October or November, when natural pollen is not to be had. While the honey flows are of the greatest importance, the sources of pollen are not to be ignored, especially in spring.

WILLOW.

In the northern States the blooming of the pussy willow (*Salix discolor*) is among the first signs of spring. It is a small tree growing along streams and on wet lands. Furnishing as it does about the first honey of the season, as well as pollen in abundance, it is highly regarded by the beekeepers.

There are about 160 species of willows, mostly confined to the cooler and temperate regions of North America. Some species extend their range into the arctic regions, where the vegetation is sparse. While the number of varieties is not so great in the southern States, it is regarded as valuable in the Gulf States and in California. As an example of the comparative abundance of willows North and South, it may be mentioned that four species are recorded for Alabama and 18 for Connecticut. The willows bloom too early in spring in the northern States for the bees to store surplus from this



FIG. 24.—AN EASTER SUNDAY BOUQUET OF PUSSY WILLOW AND SOFT MAPLE



FIG. 25.—HONEY BEE ON MAPLE BLOSSOMS

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source, but both nectar and pollen are supplied for early brood-rearing.

In "Richter's Honey Plants of California," I find reference to numerous localities where surplus has been secured from the willows. It is said to be "a dark amber and bitter honey." In a few other southern localities surplus yields from willow are reported. The flowers on one tree will be staminate and on another pistillate. Unlike most plants the organs of both sexes are not found on the same plant.

MAPLES (*Acer*).

Almost all of the early pollen and nectar comes from trees, and most of the trees bloom early. The maples are mostly large trees confined to North America and temperate regions of the old world. Two species are commonly planted for shade and ornament; the sugar maple or hard maple, *Acer saccharinum*, and the red maple or soft maple, *Acer rubrum*. The photographs show the blossoms of the soft maple.

Maple lumber is commonly used in the manufacture of furniture, flooring and finishings. The blossoms come very early, when especially valuable in building up the colonies for the main honey flow. If the bees were as numerous as later the nectar stored from maple blossoms would make a creditable yield. Mr. C. L. Pinney, of Iowa, reports that one year his scale hive showed a gain of from one to two pounds daily from soft maple, when the ground was still covered with snow.

If it were possible to have colonies come through the winter with as many bees as they have at the beginning of winter, beekeeping would be a bonanza. Instead of having one or two flows,

there would be first a flow from maple and willow followed by one from dandelion and fruit bloom, ahead of the big clover flow. However, the beekeeper whose apiary is situated near plenty of such trees as willow, maple elm and box-elder is fortunate indeed, for the bees get a splendid stimulation very early, and should be in prime condition for business when clover comes on.

BOX-ELDER (*Negundo aceroides* or *Acer negundo*).

The box-elder or ash-leaved maple is a near relative of the maples, and is sometimes included with them. Fig. 26 shows the staminate blossoms of box-elder. Like the willows, the stamens are borne on one plant and the pistils on another.

The box-elder is found from New England and southern Canada west to Dakota and southward. It is also common in California. Apparently its range does not extend as far southward as other maples. It is very commonly planted for windbreaks and shade in the prairie States of the central West. Some honey is yielded by the blossoms and honey-dew is often secreted by aphids feeding on the leaves. While not generally regarded as especially valuable, its season is such that its addition to the honey-producing flora is important. The blooms come very soon after soft maple in April.

ELM (*Ulmus*).

The elms are very attractive to the bees for pollen. The American or white elm is more especially valuable, and a large tree will attract so many bees that the humming sounds like a swarm. Our illustration shows the

bloom of the red elm (*U. fulva*), also called slippery elm.

HAZELNUT.

The hazelnut (*Corylus americana*) is a slender growing shrub common in the borders of woodlands of the most of the temperate North America. It yields some pollen and is valuable where there is a scarcity of early pollen-bearing plants. The figure shows the male blossoms which are more conspicuous than the fertile ones.

Atlantic, Iowa.

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Preventing Swarming—Making Increase

BY E. F. ATWATER.

IN many localities conditions are so favorable for swarming that even with the production of extracted honey a vast amount of work must be done to prevent it. Such is the case in Mr. Holtermann's location in Ontario, Canada, and certainly such is the case with us.

We are all looking for a sure and easy way to hold the bees together without sulking or swarming. But all plans used require an amount of labor that cuts heavily into the season's income, and all do very greatly limit the number of colonies and apiaries which can be successfully operated.

In the American Bee Journal for 1914, page 310-11, Mr. C. F. Greening asserts that "by always keeping some brood unhatched in the top super, as long as there is any space below that super in the hive proper, your bees will not swarm." If this be true in many localities, I would regard it as one of the most important and revolutionary discoveries in modern beekeeping.

The inference is that examination of brood-nests will be unnecessary, and nothing is said about destroying cells that may be started on that frame of brood, after putting it above. Nothing is said as to the use or non use of an excluder, and if not used, and the flow is not very heavy, many queens will establish their brood-nests above—a very undesirable condition.

Where this frame of brood is in a third or fourth story, above an excluder, we have had many a queen reared and mated there, by allowing a small entrance to the upper story, with no swarming. But if the mere presence of that frame of brood with empty comb below is a sure prevention, the writer wants to know it.

We hope that others with an extensive experience will deny or confirm Mr. Greening's claims, for if the plan is to be relied upon, it can save thousands of dollars to our beekeepers this coming season.

In Mr. Hand's article, page 129-30 of the American Bee Journal for 1914, entitled, "The Migratory System vs. the Convertible Hive System," he shows us how to treble the number of colonies without the expense of a trip to Florida or California.

Let us look into his system, as it may be valuable.

First, he places five frames of brood and honey, and the queen, in one end



FIG. 26.—STAMINATE BLOSSOMS OF BOX ELDER



FIG. 27.—ELM BLOSSOM

of the hive, separating them with a tight-fitting division-board. Right here the writer often does something similar, so will tell a good way to effect this separation. Saw grooves $\frac{1}{8}$ inch deep, in which a tin division-board may be slipped, or a queen-excluding division-board as required. A strip, $\frac{3}{8}$ inch square by 19 and 1-16 inch long, makes the top-bar of the tin division-board. Such a division-board occupies almost no room, and readily gives free communication of heat by conduction and radiation.

But Mr. Hand, starting his cells at such a late date, in this locality would lose out compared to our plan. If we cannot have the laying queens ready from a few days to three weeks before our first flow, then we buy them. Each layer that we can establish in a good 2 or 3 frame nucleus before our flow, will, with but little help, soon build up to a strong colony, then if our second flow is good they will gather quite a crop, while if we waited to utilize cells of our own starting, say June 1, it would be 11 days before our virgins emerged, 8 to 10 days more before they lay, and 21 days more before their bees hatched. Such nuclei, as a rule, do well if they get winter stores.

All the dividing of full colonies done by Mr. Hand, and waiting for the queens to mate and lay, constitute a great handicap to his colonies.

The writer must confess that he has been compelled to make a great deal of such late and unprofitable increase, owing to non-arrival of ordered queens. I fear that there are few localities in which eight combs of brood may be taken from parent colonies after they have already had several combs taken from each. In any event such vast

production of brood after the opening of or during the flow, must reduce the crop from that flow.

We have taken 40 rather poor colonies in boxes, kegs, and odd-sized hives, transferred all and secured nearly 200 percent increase, and taken enough honey to cover the cost of the original 40, but without the increase, would have had double the honey. If our second flow had been heavy, we might have had a large crop.

The plan of "springing" two colonies in one hive is good, though not new, and will, if our experiments indicate anything, give more early brood, from each queen than any other plan, as the other colony just beyond that division-board will keep the division-board brood as warm as a summer day, so that each colony virtually has a furnace-heated wall on one side, but if this plan is adopted you lose all spontaneous prevention of swarming, as the space occupied by each colony is small, and conditions unusually favorable for breeding.

When the old Quaker had pounded his thumb, and his wife happened out, he cried, "Go back into the house, Mandy, I'm feared I'm about to express myself." So after giving a little criticism of Mr. Hand's methods, we will give a hint of our own.

Here early increase is the profitable increase the same season.

Get laying queens at any time from the opening of the flow to three weeks previous; make a nucleus of two frames of brood and bees from each strong colony, shake in front as many more bees, so there is no need to confine them, as the old bees go back while the young ones remain.

Give each nucleus a queen, then as forward colonies get strong give a frame of hatching brood or a shake of bees to each nucleus. A few "shook swarms" when the flow arrives will furnish brood to fill out any that are weak.

Now the rush is on, no time for building up a lot of nuclei, so we make our increase, either by the Coggshall or Hutchinson plan. When bees are flying freely, jerk a frame of brood out of each strong colony. Shake the bees in front of or into their old hive. When you have six to ten such frames of brood, then move aside a good colony, into its place put the new hive with the six to ten frames of brood, give them a queen, and if the flow is good put on a super of combs.

The above is the Coggshall plan.

With the Hutchinson-Coggshall plan put your six to ten frames of beeless brood above the excluder on a strong colony. Then in a few hours, or better, about five or six days, set off this body of brood and young bees on a new stand, destroy cells if any and give a queen. Either of these two plans is as far superior to the tedious and laborious colony-depleting methods advocated by some as could well be. No hunting for queens in a busy time, no serious depletion of any colony, and ready for some super work at once. Then no "building up" with tedious manipulation, but good colonies will give a good account of themselves.

Meridian, Idaho.

How I Produce Extracted Honey

BY A. P. RAYMOND.

(Read at the Wisconsin State Meeting.)

I AM requested to give my method of producing extracted honey. I have not made any important discoveries along this line. I simply put in practice the discoveries of others which I have gleaned from reading the various publications relating to the subject of beekeeping.

I first endeavor, as soon as my bees are on the summer stands, to give them what aid I can in rearing young bees, and getting all colonies as strong as possible and as early as possible. In doing this I have entirely discarded the plan formerly practiced by many, of taking brood and bees from the stronger and giving to the weaker colonies. I believe a frame of brood and bees is worth as much in the hive where I find it as it will be when moved to another and weaker one; besides, I save a large amount of useless labor.

The weaker colonies are stimulated by regular feeding at times when there is no honey coming in from the fields. For feeders for this purpose I use a cigar-box worked over into a miniature Miller feeder. I cut an aperture $\frac{1}{8}$ -inch wide and as long as the feeder in the enamel cloth, which I use on all my hives in summer, and place the little feeder directly over this, pour in the feed, and place the telescope cover over all. I think feeding in this way, that is, placing the feed directly over the cluster, the most effective of any;

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even the weakest colony will remove the food in the coolest weather. About the time the strong colonies are likely to prepare to swarm, I place on top a super which is an exact duplicate of the hive-body filled with empty combs, making a 2-story hive and using no queen-excluder.

The queen and bees now have free access to both the super and the original hive-body in which to rear brood. Just at the time clover bloom appears, I raise both of these bodies up and place another body underneath, which is filled with empty comb or foundation. I place the queen and a frame of comb containing a little unsealed brood in this body with an excluder on top, and the other two bodies on top of all, and now we have a colony that in all probability will not swarm during the honey-flow. If we can succeed in getting strong colonies in time for the honey-flow, and then prevent swarming, the honey crop will be



FIG. 28.—HAZLENUT BLOSSOMS

forthcoming provided the flowers yield any, which I am sorry to say is not always the case. I keep close watch and provide more super room as needed, placing the empty ones directly over the one which has the queen, and raising the others above.

I would never think of getting along without queen-excluders, nor would I attempt to remove honey without bee-escapes. In one week after placing the queen under the excluder, I examine the two bodies raised above and remove all queen-cells. This prevents the presence of drone-laying queens, which prove to be such a nuisance.

I suppose I will be the first to register a disapproval of the steam uncap-

ping knife. I used it one season, and my honey from cappings, which was formerly the very best, using the old knife, proved to be a lot of thin, dark colored unsalable honey, fit only to feed bees.

Extracting with me is done from the first to the middle of August, placing the combs back on the hives for fall flow, which, in my locality, we sometimes get.

Greenwood, Wis.

More About Mr. Mendleson's Apiary

BY B. BLACKBOURN.

I WAS very much interested in the account of Mr. Mendleson's apiary in your February number, and should like to ask a few questions. One glance at an apiary like his shows what the owner is. One never yet saw a well-kept apiary run by a bad beekeeper. A model apiary invariably means a keen beekeeper, and a keen beekeeper means a good one. Mr. Mendleson says that the grounds are kept clean. By this does he mean that the ground is kept clear of vegetation by hoeing, or that the vegetation is kept short by cutting with a scythe or mower?

The ideal bottom for an apiary is one over which I have given considerable thought. Grass is probably best all around, but the ground needs to be very level so as to facilitate cutting, and cutting in this moist climate needs to be done very frequently or the grass soon gets coarse and long. Then there is the question of keeping it down close to the hives where it cannot be cut with the mower. Over and over again have I seen salt recommended for this purpose, but my experiments along this line have proved it unsatisfactory, as the salt encourages the strong grasses and only kills the weak ones, the result being that one soon has great strong clumps close against the hives that are too thick to cut through with shears, while if they are pulled up great holes are left in the ground. After all this is what one would expect, as salt is used largely as a manure for pastures.

With regard to the galvanized iron honey tanks. How are they cleaned? also how ventilated? Does not the honey affect the iron? Our authorities always warn us not to use galvanized goods, as they say it affects the honey, but I notice that they are commonly used in America, and I have never read of any bad results. I should also like to know how such a large quantity of honey is strained.

Ramsgate, England.

[As this letter raises some interesting points, we have asked Mr. Mendleson to reply, for he is one of the most experienced beekeepers of the West. Our correspondent perhaps does not know that California is an exceedingly dry country where rains come only during the winter months.

In Illinois we have found coal cinders the best material to keep down the

grass around the hives. The cinders make an ideal alighting place for the bees, as they are always dry.

Like Mr. Mendleson, we have found galvanized iron tanks satisfactory to keep honey for a few months. But for shipping, tin must be used. Mr. Mendleson replies as follows:—EDITOR.]

"The keeping down of weeds and grass in my apiaries has always been a matter of importance to me. It causes labor and expense to be avoided as much as possible. As I have peach trees among my hives for swarms to alight upon, and also intend to have grapevines for a system of trellis shade for the hot summer months—the grapes alone will pay for expense of hoeing and a profit—I must avoid damaging the soil by applications of salt or crude oil. So I am compelled to hoe down the weeds in early winter. Two or three times cutting thereafter with a scuffle hoe will do the work in this climate of California, as the surface of the soil dries out during the dry part of the season; then the weeds cannot sprout until the following wet season commences. So you see we have the advantage here over those having periodical rains to contend with. We generally have from five to six or more months of dry season.

"Concrete bases would be a great saving of time and labor, but that would make a big expense, although I believe it would pay, and I may try the concrete about a foot or more from the hives. In this warm, dry climate it is quite important to avoid fires, as many have lost fine apiaries from letting the weeds grow, which makes good kindling for a mountain fire. The advantages of a clean apiary are many; no obstructions, easy work, etc. I believe our work should be made cheerful, and cheerful surroundings cause pleasure. 'What is worth doing at all, is worth doing well,' and is in every way better in the long run.

"As to galvanized honey tanks for extracted honey, I have all my tanks cone-top with a manhole at the top and a ventilated lid. I can fill these tanks to the manhole, and it is easy to skim the honey, and after it is drawn off I put in a few pails of water to dissolve the thin coating of honey and wash out for the winter.

"The honey is not in the least affected by the galvanized iron, good ripe honey never works upon the iron, and the sun shining on these cone-top tanks causes the honey to get exceedingly thick and ropy. It is thin unripe honey that causes fermentation and eats off the galvanizing, and then the danger of arsenic poisoning. Any honey left in these tanks (after drawing off) would draw moisture during the wet season and cause fermentation and then damage."

A Swarm Saver

BY A. F. BONNEY.

I DO not expect the small minority of professional beekeepers who read this to be very much interested in my new idea, but to the thou-

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sands of beginners, amateurs, and those who keep so few colonies that they cannot be with them all the time to watch for swarms, I believe I am offering something of real utility. However, a few experienced beekeeper friends to whom I have shown it while incubating say: "It will have to be tried out."

Were I younger, or saw more money in it than I think I do, or were not so lazy, and busy, I might have the thing patented. As it is, I am going to give it to the beekeeping world, while realizing that things we do not have to pay a good price for are apt to be laughed at. If you are at all interested in the scientific aspect of beekeeping, or wish to know for sure if my invention will save time, labor and swarms, make one, or send to me for one, and give it a trial. Then report to your bee journal.

The instinct of a bee is to go up, also to the light, and on a screen or light of glass it would stay and starve, trying to escape; hence, the swarm "saver" which Mr. Alley patented years ago failed, for he wanted the queen to go sideways and the bees to follow her. Nor would they do as I plan were I to let them go into the brood-chamber by the usual entrance were it closed to them at the last hour. So I yield to their instinct to go up and to the light. Then I put the saver on a week or more before a swarm is expected. This may, of course, mean

ten days or a month. When I say "I," I mean the experimenter. Don't be too critical.

Referring to cut No. 1:

A is the brood-chamber.

B, a super.

C, a super containing frames with foundation.

D, bottom-board.

E, cover.

F, swarm saver.

G, queen-excluding board, covering top of F.

H, queen-excluder over half of entrance of top super.

I, coarse wire screen to ventilate brood-chamber. This wire is put on when the swarm saver is, and must be covered a while until the bees get to coming and going by the way of the top of the swarm saver, which they will do, no doubt, in a short time. Then remove cover to give ventilation.

Cut No. 2 shows the course the queen and bees would take when they leave the brood-chamber. The bees would go out at J but the queen, when the bees swarmed, would follow the dotted path and find herself in C and restrained from going out by the excluder H. The bees returning would find her in C with a nice lot of frames and foundation, and would remain with her and go to housekeeping.

I might say to the greenhorn that when this condition is found to exist the proper thing to do is to attend to

the swarm, shaking them in the good old way. If you do not know what this means go to the books or ask some beekeeper.

The cleats on A and B are required on account of the unevenness of the hives. It will be noted that the back of F is shorter than the front, leaving a $\frac{3}{4}$ -inch opening at the bottom and $1\frac{1}{2}$ inch space at the top, under G. The top of F comes but a little higher than the bottom of C.

Being very anxious to make this as valuable to the beekeeper as possible, I have asked Dr. Miller to give his opinion of it, and make such criticisms as he sees fit.

Buck Grove, Iowa.

[We have had swarm-catchers and self-hivers, but here's a swarm-saver. Rather a happy choice of name. Is it not, however, also a swarm promoter? For with the ordinary entrance closed will not the bees be pretty warm? Still, wire cloth is cheap, and abundant ventilation is easily planned. Moreover, the device is only used where swarming is expected anyhow.

There would be trouble to train the bees to use the higher entrance. Dr. Bonney says it is the "instinct of a bee to go up." Inside the hive, yes; outside it seems the other way. Rather than to go up two stories to find a new entrance, I should expect the bees to go to an adjoining hive, if the hives were in pairs. But there could be a hole half way up for the bees to use, to be closed after two or three days, thus training them by easy stages.

After this much is said it seems to be easy sailing until we come to the place where Dr. Bonney says the bees would remain with the queen and go to housekeeping. Would they? Dr. Bonney is reliable enough, but in an untried matter of this kind I'd rather take the bees' word than his. This is the crucial question. Until an answer is obtained from the bees I should lean to the belief that Dr. Bonney has made a correct guess.

Then when the swarm is safely housed in the upper story, the greenhorn is advised to shake the swarm. Out upon you, Doctor. In that case all the "saver" would do would be to save the queen, and I'd just as soon save her with an ordinary entrance trap. Unless there's something in the case that I don't understand (and there is always that possibility), there is an easier and a better way than shaking a swarm, one that can be carried out by a beginner who has never opened a hive, and even with box-hives.

Two days after the swarm has entered its new quarters put a super over it; five days later still, or a week after the issuing of the swarm, remove the



FIG. 1.—DR. BONNEY'S SWARM SAVER ATTACHED PROPERLY TO THE HIVE

old hive to a new stand, 6, 10, or more feet distant, and leave the swarm on the old stand, of course without the "saver." That's all; the bees will do the rest, and there will be no after-swarm. There will be no trouble about the bees going down to find the new entrance; I've tried it often.

This will be easier than any case of hiving a natural swarm in the old way, and immensely easier than some cases; and for one who wants natural swarms without watching for them, assuming that the swarm will make itself at home above, this device would seem a thing greatly to be desired.—C. C. M.]

Progressive vs. Box-hive Bee-Keeping in Cuba

BY D. W. MILLAR.

THE following letter from Mr. F. E. Kezar is liable to be misunderstood, and I believe requires an answer. Mr. Kezar is a man who from long association here knows the language and customs perfectly, and as an authority on land titles, the Cuban law and the making of pure sugar cane syrup, the business he is engaged in, we take our hat off to him. Furthermore, he is thoroughly reliable. However, what he doesn't know about modern beekeeping would fill just as big a book as what he does about the other subjects mentioned:

"Your letter received, also the Bee Journal, and it is no doubt a very fine paper for United States. I am a personal friend of Mr. D. W. Millar, of Holguin, Oriente, and he is one of the leading bee-men of Cuba today so far as science goes, but the Cuban method has been 'skinned a mile' when it comes to money making and knowing the bee-business in Cuba. We have too many Americans that come here and try to revolutionize the Cuban ways, most of whom starve at it.

"Your theories and modern hives are all right, but for money making give me the real old Cuban ways. I own and control a little over 6000 colonies at the present time, and not one American hive, and even with the very low market price in Germany, we are making real money, while 90 percent of our American friends are either quitting the business or starving at it. So I cannot see my way clear to encourage in any way your business here, especially as it must all be done in Spanish."

F. E. KEZAR.

Now from his personal standpoint only, he is right about the bee-business in Cuba. He buys swarms in logs at an average of 30 cents each and gives them to the natives on the halves. If they get 4 gallons per log annually, which they do not, and it sells at 12 cents per gallon, as it has this year, he has a good investment. By loading up the rear end of an occasional operator with fine shot, he can manage to get about his one-half all right, and this is all the beekeeping he has to bother with.

Modern equipment costs more to be sure, but in Cuba good locations and proper management will produce from

19 to 25 gallons on an average annually per colony (extracted). My average this year and last was 10 pounds, but a neighbor this year has secured from two different apiaries an average of 25 gallons. *Pure, clean and ripe honey extracted*, as it is only possible to do so by modern methods, brings a much better price than *strained* honey. My extracted nets me from 5 to 8 cents per pound, 12 pounds to a gallon.

Of course, the man who has studied modern beekeeping knows the great difference in the percent of profit in its favor, but the beginner who may read Mr. Kezar's letter, should know both sides of the situation here, and I think he can readily see the difference from the explanation.

All that Mr. Kezar says about the many Americans who wish to change everything in a minute is correct. Likewise what he says about 90 percent of Cuba's modern beekeepers being failures is correct, and he might have included not only the beekeepers but all the English speakers who have come to Cuba. There are exceptions, however, and those who have studied the situation and mastered their subject are not failures. There have been many reasons for beekeeping failures, some on account of poor locations, fear of being stung, lack of capital, inattention to business and not properly mastering the business in detail, etc., but the main reason can be charged to producers of honey from log hives.

This *strained* honey, known all over

the world as "West Indian" is dirty, will quickly sour, and is not fit for consumption, even if it were not doctored before being exported. The producer of *good, clean, pure, ripe* honey that has been *extracted*, has to sell his goods as "West Indian" in many cases, because he has no fit packages to ship *good* honey in, old dirty second-hand lard barrels being the main package obtainable here.

New clean tins or barrels imported from the States cost money, and in advance of the harvest at least six months, putting them out of the question for many, who have in the beginning started short. The dirty barrels and some supplies are advanced by the local honey buyers, and you take their prices for your goods. Good and bad is all the same to them, because they sell it all as bad and for what they can get, paying accordingly.

We can produce by modern methods just as good honey in Cuba as can be produced any place, if we do this by being clean, properly ripening our honey and packing it in clean packages, why should it sell for 30 and 40 cents per gallon with freight, and 10 cents per gallon duty paid in New York, when no better American honey is bringing 6 to 8 cents per pound? It should not and will not if the producer does his own exporting and selling, with a little sampling and advertising. The buyers will soon know whether he is sending good goods and whether or not he is reliable. Holguin, Cuba.

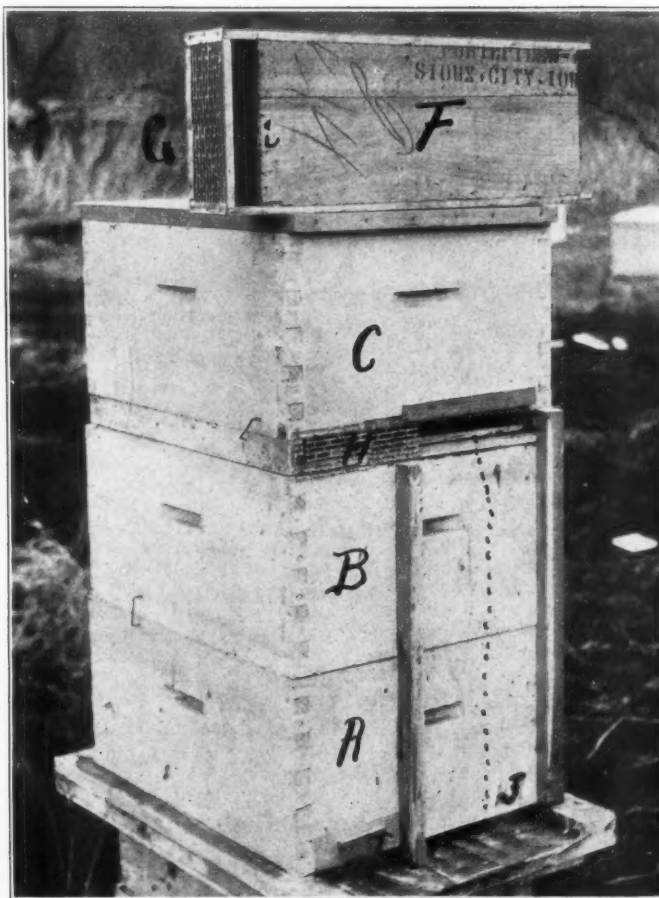


FIG. 2.—ILLUSTRATING THE STRUCTURE OF A SWARM SAVER

American Bee Journal

DR. MILLER'S



ANSWERS-

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Minimum Strength to Fight

In treating colonies with European foul-brood by dequeening or caging the queen, all agree the first thing to do is to make the colony strong. I find ideas differ on this matter of strong colonies. What is the minimum strength with which you would expect success?

NEW JERSEY.

ANSWER.—You have struck a new question, yet now that it is asked the wonder is that it was never asked before. Without being dogmatic about it, I should say that the colony should be strong enough to have six Langstroth frames well filled with brood—to be more specific about it, each frame being three-fourths filled. I don't know, but I think it also important that there be a good force of young bees, and without this it would not be likely that six frames would be well filled with brood. Old bees that have begun work a-field are not the ones that do house-cleaning, and it may well be questioned whether doubling up such bees to any extent would answer the purpose.

Bee Paralysis—Keeping Queen in Upper Story

1. I have 16 colonies of bees all in 8-frame Langstroth hives, and one of my colonies shows signs of great restlessness at the entrance. (The queen is doing excellent work in both lower and upper stories, so they are extra strong in bees.) The alighting-board is covered all the time with bees running here and there in very much disorder and constantly pulling at one another, pulling bees out of the hive and dropping them in front of the entrance. What is the cause of this disturbance?

2. I read that it takes a working bee 21 days to hatch, but a queenless colony will rear a queen in 15 or 16 days, or even 10 days. Why will the queen hatch sooner than the worker?

3. I put a full depth super on top of one of my colonies, and an examination afterwards showed the queen was rearing brood very extensively in the upper story, and later on I examined the lower story and found that she had deserted it altogether, and the cells were all full of pollen. Could you tell how this could be avoided?

TEXAS.

ANSWERS.—1. Looks like bee paralysis. In the North this disease is not likely to amount to anything; but as far south as Texas it may be quite serious.

2. I can't tell you, any more than I can tell why it is that a queen will live several times as long as a worker. Possibly because in both cases the queen is much more important than a worker for the continuance of the colony.

3. A queen-excluder of perforated zinc will prevent the queen from going up.

Fastening Foundation Sheets—When to Buy Bees—Feeders

1. How do you fasten foundation sheets to the top-bars of shallow frames with no grooves and wedges?

2. Would medium brood foundation be all right used in shallow frames for chunk honey?

3. What time of the year is best to purchase bees?

4. What do you think of the Boardman feeder?

IOWA.

ANSWERS.—1. With melted wax. Some use two parts wax to one of rosin. Make a board large enough to fit a bit loosely inside

the frame, nail stops on the ends so as to let the frame go down half way, put frame over, then the foundation in place, and pour the melted wax from a spoon with its point bent together, or else with a special dropper. The wax is likely to stick unpleasantly to the board unless you wet the board or else put newspaper over it. A brush may also be used to put on the wax.

2. Too heavy.

3. In the spring; although in some places you can buy more cheaply at swarming time.

4. Good; but when heavy feeding is to be done you would expect me to prefer the Miller.

Swarming—Color of Bees—Shade

1. I have three colonies and should like to increase and also try Caucasians. Could I take one or two frames from each colony, unite them and then introduce a Caucasian queen? Will it prevent the mother colonies from swarming? Can you suggest a better plan if mine isn't practicable?

2. What causes such a great diversity in color among the individual bees and also among the colonies in general whose queens are a mother and her daughters? What are the typical markings of a leather-colored Italian?

3. Is it very necessary that a colony have shade during the heat of the day?

WASHINGTON.

ANSWERS.—1. Yes, your plan is feasible. But taking away only one or two frames of brood from each colony is not likely to prevent swarming, although it will delay, and in a few cases prevent it. To fulfill your desire you will do well to follow what is called the Alexander plan, varied a trifle. Wait until the time comes when there is danger of swarming. Then put all brood but one in a second story, leaving in the lower story the one brood and the queen, filling out with drawn combs or frames filled with foundation, and pay no attention to where the bees are. Put a frame of comb or foundation in the second story to fill out the vacancy. Have a queen-excluder between the first and second story. A week or ten days later, lift off the second story and set it on a new stand, destroying all queen-cells if there are any. Twenty-four hours later give to this new colony a laying queen, a virgin, or a queen-cell.

2. If you have a pure Italian queen, her worker progeny all having the same markings, and from her rear a young queen, and this young queen mates with a pure Italian drone, you may expect to find the same markings in the worker progeny of the young queen as are found in the worker progeny of her mother. But if this young queen mates with a black drone, then you will find the worker progeny different, some of it looking like black workers and some like Italian, and perhaps intermediate markings. The distinctive markings of leather-colored Italians are the three yellow bands.

3. Different views are held as to the desirability of shade for bees, some even saying that they are better without it. No doubt there is in this respect a difference in localities. In my own locality I think they are

better off with some shade, but it is more important for the beekeeper than for the bees.

What Hives Fill Best with Bees—Sections—Separators

1. I want to get new hives. What hive shall I select, principally for extracted honey? The hive I have been using is a trifle smaller than the Langstroth. Can I get the same enormous population by using two Langstroth bodies on top of each other as a brood-chamber, up to the time of the main flow, or can I get the same results by using a 12 frame hive?

2. Could you tell me which kind of section stands shipping better, the plain or the beeway, or is there no difference?

2. Which section super do you prefer, and would you advise plain or beeway sections, and which kind of separator? HOLLAND.

ANSWERS.—1. I don't know enough to answer very positively your questions, but gladly give my opinion, as far as I know. On the face of it, I should suppose that a queen would be very much bothered about going up and down from one story to another, and so would have a larger force of bees in a single story of the same capacity. I must say that an experience of years has not proven this to be true. So far as I have had any actual proof, I should say that if there is any difference at all between the queen's work in two stories and a single story of the same capacity, it must be very slight. At the same time there are, in other respects, advantages in favor of the single story.

2. As to the matter of shipping, I don't know but one kind is as safe as the other, but before the sections get into the shipping-case the plain section is more likely to come to grief.

3. After a good deal of experience with different supers, I prefer the T super. A considerable experience with different kinds of sections makes me prefer the beeway, $4\frac{1}{2} \times 4\frac{1}{2} \times 1\frac{1}{2}$. In handling the plain sections, one has to be more careful lest the fingers be thrust in them, and more careful lest they tumble over. A loose, plain wood separator serves well, is inexpensive, and easy to clean.

Moths—Swarming—Demaree Plan

1. Can you recommend any way in which moths can be prevented from entering hives? I lost three swarms last year with moths.

2. Do you think it best to use drone-traps and swarm-guards to prevent swarming?

3. What is the Demaree plan? IOWA.

ANSWERS.—1. There is no way of preventing the entrance of the moth without preventing the entrance of the bees; the moth is smaller than the bee. Get good Italian stock, keep your colonies strong, and you need pay no attention to the moth. The bees will see to them.

2. They do not prevent swarming. All they can do is to catch the queen when the bees swarm.

3. The Demaree plan of preventing swarming is this: Put all but one brood in an upper story over an excluder, leaving the queen with the brood below.

Prevent Swarming—Strengthening Colonies—Caging Queen—Roqueoning

1. I have four colonies in a house apiary. I want to prevent swarming. Would it do to add a hive body with wired foundation below, as soon as the queen needs the room, then about three weeks before clover, or about May 20, put the queen below, then an excluder, then a super of shallow extracting frames, and over all the old hive body with brood, and about June to remove the old hive body from the top and put a comb-honey super between the extracting super

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and the excluder? Provided I give ample super room, would that be likely to prevent swarming?

2. Could I strengthen two colonies with safety to both queens by putting the weak one over the strong one, *a la* Alexander, with two queen-excluders between, so as to keep the queens from fighting through, then put a newspaper between at time of uniting, *a la* Miller, and then separate about June 1, and have two colonies ready for clover harvest?

3. There is usually a fairly good fall flow here of aster, goldenrod, and buckwheat, and I would like to know if caging the queen in June or July to prevent swarming would be practiced at a loss in regard to fall honey? Would not the removal of the queen for ten days during June result in the loss of about 20,000 bees, figuring 2000 eggs a day, that would be ready for a fall flow Aug. 15?

4. In J. E. Hand's article in *Gleanings in Bee Culture* Oct. 15, 1914, he says: "The reigning queen will be executed without parley or delay," and on page 998, of *Gleanings* for Dec. 15, 1914, he says: "For bees have a decided antipathy against virgins when eggs and larvæ are present." Unless one dequeens how could one be sure there were no eggs or larvæ present? What is your experience with "requeening without dequeening?" PENNSYLVANIA.

ANSWERS.—1. Unless your bees are unusually "forward looking," they may be behind time on the program you are laying out for them. You say add a hive below "as soon as the queen needs the room," and evidently expect her to need it so early that she will have the brood-nest extended into the lower story by May 20. Maybe she will. Mostly, I should expect, she won't. At any rate it will do no particular harm to have the empty story below. Suppose there is nothing doing below, and May 20 you put the queen on the foundation under the excluder. In too many cases the queen will swarm out, unless you put something in the way of bait below. At any rate I've had them swarm out. Suppose, however, that the brood-nest is started below, or if not that you give a frame of brood. The bees will go to work all right (you must look out for cells in the old brood above); they will fill up the lower story, and then—swarm. Not always, but I should expect it to happen a good many times. They will not be so certain to swarm as if you had let them alone, nor will they swarm so soon. But you have operated so early that you may expect more swarming than you want. The later in the season you give the queen that empty story below, the more certain you will be to have no swarming. Put it off just as long as you can without having the bees actually swarm. If you wait until cells are started, and then operate, destroying the cells, you may feel pretty easy about swarming. Some report it a perfect preventive.

You propose to put a comb-honey super under an extracting super. That will be all right if the extracting combs are nice and white. If black from brood-rearing your sections may be blackened.

2. Yes, but you mustn't expect that each of your two colonies will be as strong as the stronger would have been if you had let it alone. Moreover, you will have to furnish a queen to one of them, for when you unite with newspaper one of the queens will be killed. I don't see what you want with that newspaper uniting anyway. If you leave the excluder until the time of separating the two colonies, you will have the two queens left—maybe. For if you leave one over the other too long, one of the queens will be killed. I don't know how long that is, probably longer at one time than another, but I am afraid in any case you cannot leave them together as long as you propose.

3. You are probably overestimating the number of eggs laid daily. If we allow three-

fourths of the frame to be occupied with brood, a queen laying 2000 eggs daily would keep eight frames occupied. I don't think many queens do that when the season is so far along. Whatever is the right figure, it will be just so much loss in your honey crop. The question is whether the loss might not be still greater if the bees should swarm.

4. To your question how one can be sure, without dequeening, there were no eggs or larvæ present, I would say that with a laying queen present one may be practically sure eggs and larvæ are present. As to my experience at requeening without dequeening, I'm a failure. The trouble is that, as Josh Billings says, "So many things we know ain't so." You quote J. E. Hand as saying, "The reigning queen will be executed without parley or delay," when the combs with the young virgin are put in the hive. I fondly trusted that might be so, and before the appearance of Mr. Hand's article had tried it a number of times, but instead I found the virgin missing. Others had the same experience, as Mr. Hand reports Dec. 15. Like enough it will succeed where the old queen is one that the bees want to supersede anyway, and it is likely Mr. Doolittle had that in mind. But is it certain that bees have antipathy to a virgin when they have eggs and larvæ?

Hives With Portico—Winter Flight—Giving Room

1. What kind of a bee hive do you prefer without porch or with porch, and why?

2. In wintering bees outside do you think it is the sickly bees that go out to die when warm days come in winter?

3. When there is a good honey flow, and two supers full of honey, would it be best to take the two supers off and put on the third, or put the third one on top of the two, so as to give the honey a better chance to ripen? WISCONSIN.

ANSWERS.—1. The Langstroth hive was at first made with a portico. Latterly very few have the portico, perhaps chiefly because it furnishes such a nice refuge for spiders, causing the death of too many bees.

2. No; sometimes a large part of the colony comes out to take a sail in the air.

3. With a good flow on, it will probably never happen that it will be good practice to take off the two supers that are on, and leave the colony with one empty super. For the bees should always have at least plenty if not abundance of room, and so a third super should always be given before the

first two are ready to be taken off. In my own apiary, a good flow being on, a super is not often taken off before three or four supers are on, and in a few cases there may be as many as seven or eight on. When the first two are pretty well filled, a third super is given below them, and like enough another on top. All this referring to a beekeeper running for section honey. With extracted honey all may be left on until the close of each particular flow, if not to the close of the entire season, or the honey may be extracted whenever it is ripe. The third super is generally given below, a queen-excluder being used. But E. D. Townsend, a very successful beekeeper, gives the empty super above, dispensing with the excluder. He says the combs filled with honey act as an excluder to keep the queen from going up into the empty super.

A Quarrelsome Neighbor

My only available place for beekeeping is in a country village. I have a somewhat quarrelsome neighbor. My bees sometimes swarm into his trees, and although I can get them out without damaging the trees, he usually objects and tries to assault me.

I am informed that there is a law permitting the beekeeper to get his bees in this sort of case. Do you know of this law? Also what shall I do to prevent him from assaulting me? MINNESOTA.

ANSWER.—Your question is one of law rather than of beekeeping. I have no copy of the Minnesota law, but no doubt you can get it from a lawyer or justice of the peace. But I think in any State of the Union a man can go upon the premises of another to secure a swarm, although he must pay for any damage, if any damage occurs in so doing. If he assaults you it is the same as assaulting you at any other time and place and you can bring suit against him.

Colonies Not Equally Strong—Wintering—Feeding—Early Drones

1. I have two colonies of bees which I hived last May. One of them produced about 50 pounds of surplus honey, while the other produced only 5 pounds. What was the matter with the second one? Was it an unprolific queen or not?

2. How is this for wintering bees: In the late fall after the honey-flow is over place a piece of burlap over the brood-frames and place a super filled with dry leaves on top of that?

3. What time in the fall should I begin feeding to keep the bees strong all winter and spring, and how much should I feed a



COMBS BUILT OUT-OF-DOORS BY A SWARM IN MICHIGAN

American Bee Journal

colony per week? In the spring should I feed the bees after they began to gather pollen?

4. I noticed drones in one of my colonies March 27. Is that unusually early or not?

TENNESSEE.

ANSWERS.—1. I don't know. Hardly be cause one of the queens was not so prolific as the other, provided the two were of equal strength at the time the swarms were hived, for it is quite likely that most of the surplus was stored by the bees that went with the swarm, although if there was an important late flow the new bees might count. It may be that there was a difference in the strength of the two swarms at the time they were hived, and it must be remembered that a colony twice as strong as another will store a good deal more than twice as much surplus. The difference may have been in the character of the bees. Some bees are more industrious than others.

There may have been other causes, or a combination of causes.

2. For your locality it would be hard to find anything better.

3. Like enough you will get best results if you feed not at all, either fall or spring, making sure that the bees have abundance of honey in the hive of their own storing. If they haven't enough, then you must feed, whether it be fall or spring. I haven't done any feeding for some time, and am rather proud of it. In one sense, however, I do feed, for each spring I give to any needy colony one or more combs of sealed honey saved over from the previous year. If my hives were larger this might not be necessary.

4. It would be very early for northern Illinois, and I suspect it is for Tennessee. A bit of danger that you may have a queenless colony.



WINTER SCENE IN INDIANA—MONASTERY APIARY OF THE FRANCISCAN FATHERS AT OLDENBERG, IND.

REPORTS AND EXPERIENCES

A Monastery Apiary—Dr. Bonney's Chaff Hive—Wintering, Etc.

Although the winter has been unusually rigorous, bees in this section seem to be wintering in first-class condition. In most cases they went into winter quarters heavy with well-ripened stores from the aster and goldenrod, and this, with judicious packing, assures good wintering.

The crop was almost a total failure in many parts of the country, but we of Franklin county can make no complaint, as we reaped a bounteous harvest. The spring flow was mostly from whitewood (*Liriodendron tulipifera*), and the fall flow which was an unusually heavy one was, as is generally the case, from the white aster and the goldenrod. From 11 colonies, spring count, we extracted about 700 pounds.

Dr. Bonney's chaff hive, a drawing and description of which was given in the American Bee Journal for July, 1914, has proved a grand success. I made one last summer and put a medium colony in it in August, and that colony stored, during the fall flow, a surplus of 65 pounds of extracted. This was from 20 to 35 pounds more than any other colony produced. All the colonies seemed to be of about equal strength in August, and therefore I am inclined to think that the *hive* was the main factor in putting this colony so far ahead of the rest. I think the

readers of the Bee Journal owe Dr. Bonney a vote of thanks for the many useful hints he has given us from time to time these many years.

In the pictures I am enclosing, the hive in question can be plainly seen; it is the last hive on the right in the first row. Just behind and a little to the right of this hive you will perceive a unique winter-case. It is nothing more than an old trunk; but it fills the bill to a "T." I have learned from experience that bees will build up much better in spring if they have good protection during winter. Next winter will find all our bees in winter-cases like those shown in the first row, as I intend to make them during the summer vacation.

I am a theological student, and find that studying and beekeeping work well together and go hand in hand. I study during the winter and work with the bees during summer.

St. Francis of Assisi, whose follower I am, was a great lover of nature, and, with him, I believe there is nothing so conducive to our appreciation of the greatness and goodness of God than an intimate association with His lowly creatures which serve to increase His glory among men, I number first and foremost the honey-bee, the most thought-provoking and the most wonderful of them all.

Oldenburg, Ind., Feb. 12.

BRO. PAUL.

Aster for Wintering—The Caucasian

So many complaints have been made about bees not wintering well on the fall asters and other flowers that I began to think my bees were going to do the same. Our cellar is an ideal one, and the temperature seldom varies more than 2 degrees from 44 Fahr. The bees were set out on April 14 with a very small percent of loss, and that was all among the Italian and their crosses. This apiary consists about equally of Italian and Caucasian, and they were all of the same weight and condition, as they were all run for extracted honey, and all had the same treatment. I did not think of trying any experiment to see if there was any difference in the kind of stores. This apiary is near a very large marsh and there is an abundance of wild flowers from April 15 to heavy frost.

The first honey is taken off, and they are allowed to fill the hives with Spanish-needle and aster honey for winter stores. This was an extraordinary year for fall honey with us, and all hives were full and there was no occasion to feed. They were set in the cellar about the first of December, making the confinement about 135 days.

All pure Caucasian colonies were set in a part of the yard by themselves and the rest occupied the other part. We did this as we are going to move all but the Caucasians to another yard, which will be our clover honey yard. Therefore, we had a very good chance to observe the difference in the wintering of the two races. We found that among a good many of the Italians we had to change the bottom-board, as it was so badly daubed from dysentery that the entrance was nearly closed. Of course, this occurred to only a few, but the Caucasians were entirely free from any trace of dysentery. We were more than pleased with the way they came out. There is another great trait of the Caucasians, and that is the way they stick to their location after they have had their flight. We found practically no drifting with them, but not so with the Italians.

The Caucasian bee will come into its own if we only give it free and unbiased trials. They are the first to build up in the spring, and the first to enter the supers, and are very quiet, no disturbance excites them; and the best of all is they cap their honey snow white, which means thick well ripened honey. The queens are long lived, doing good work at five years if well bred and well developed. They are the best bees ever imported into this country. A. D. D. WOOD.

Lansing, Mich.

Backward Spring

This is a very backward spring. Soft maple has not bloomed yet, and peach trees are just beginning to bud.

Bees are strong and carrying willow pollen. They wintered very poorly in this section, with a 45 percent winter loss taking all the apiaries, good and bad. I only had a 12 percent loss in all seven yards. Some yards lost none, while others lost heavily.

W. L. LOVEJOY.

Clarkston, Mich., April 19.

Good Record

I put 121 colonies in the cellar last winter. I lost three, one starved to death, and two were queenless. At present I have 118, and all are strong. We have a good prospect for honey here now.

W. W. LESTER.

Glidden, Iowa.

Good Prospects

Bees wintered finely. I put 114 colonies in the cellar and took out 114 alive. They are building up in good shape. Clover is looking well. It has been dry for some time, but we have just had a fine rain. I cannot see any reason why we should not get a good clover flow if we get plenty of rain.

W. S. PANGBURN.

Center Junction, Iowa, May 5.

Bees in Bad Shape

Bees in this locality wintered poorly. One party 1½ miles from here, lost all he had—70 colonies. I had 168 colonies in the fall, and have only about 30 in fair condition, and ten poor ones now. The reason for this loss it was too cold and we had too much rain last year up to July 8, when the Mississippi river recorded the danger line. The flow came very late. Bees, in the meantime, had been working on fruit trees and melons, wherever

American Bee Journal



A CLOSER VIEW—MONASTERY APIARY, OLDENBERG, IND.



D. G. LITTLE'S HOME-MADE MACHINE FOR CUTTING SEPARATORS.

the fruit was cracked by moisture. The consequences were that the honey fermented in the winter quarters, and the bees dwindled away. I did not get one pound of surplus honey last year, while three years ago I had 13,000 pounds. C. W. LANG.
La Crosse, Wis., May 10.

Colorado Prospects

We are having lots of rain and cloudy weather. Bees are not building up well, and a good many are weak. We hope for better weather soon. WESLEY FOSTER.
Boulder, Colo., April 15.

Prospects Not Good

We are having the coldest spell here that I have experienced for years. Nearly the whole spring has been cold and cloudy. The ground is very wet, and the season is fast advancing, and we need warm weather to accomplish results. I am feeding many colonies. This is unusual following a wet winter. We cannot tell what the crop will be. M. H. MENDLESON.
Ventura, Calif., April 30.

Wintered Well on Aster Honey

I had 54 colonies last fall that I wintered, and they had nothing but aster honey. It was the second time since I have been keeping bees that aster had any honey, and that is since 1908. I was afraid my loss would be heavy, but I lost only one colony, and it was light in bees in the fall, and the first cold spell we had they died. I had five colonies that were queenless in the spring, but this was not any fault of the stores, and there were plenty of bees.

The spring has not been very favorable, the weather was too cold through March and part of April, and it is very dry. There was no rain from March 22 until May 7.

There won't be any white clover here this year, as what little there was last year was killed by the dry weather last fall. We did not get any white clover last year.

Percy, Ill., May 10. JAMES T. JOHNSON.

Making Separators

I enclose a photograph of an apparatus for perforating separators. It is a rough looking machine, but does fine work. The perforations are three-sixteenths of an inch wide, and $3\frac{1}{2}$ inches long. There is an iron plate below with three slots through which the steel blades punch out the strips as shown in photograph. The blades have chisel-like ends, one end starting first and going through with a shearing motion. It does not split the separators, and they will last longer than one cares to use them. I have several hundred that have been in use over six years, and have been scraped repeatedly, and will have to be thrown away still intact, as they are getting too much propolized to use further.

Bees work the sides and corners of supers with such separators better than they do with solid ones, making more uniform weight. To use the machine I sit astride with the left foot in the loop of the iron lever, and right foot in the wire loop which works the fender and removes the separator from the blades without breaking. It will perforate over 200 per hour.

The steel for blades cost 50 cents. It was sawed in three pieces with a hack saw and dressed to size with a file. It took quite a little tinkering to get it adjusted just right, but I am well satisfied with the time spent, as that is all it cost except 50 cents.

Bees have wintered unusually well. White clover was splendid last fall, but the ground has been covered with ice during the past three weeks, which may kill it out some if it holds much longer. D. G. LITTLE.

Hartley, Iowa, March 11.

EAT HONEY

American Bee Journal

Classified Department

Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.

BEES AND QUEENS.

PHELPS' Golden Italian Queens will please you.

BEES AND QUEENS from my New Jersey apiary. J. H. M. Cook, 70 Cortland St., New York City.

GOLDEN all-over Queens. Untested, \$1.00. Tested, \$3.00. Breeders, \$5.00 and \$10. Robert Inghram, Sycamore, Pa.

PHELPS' Golden Italian Bees are hustlers.

SEND for my new booklet. It's free. J. B. Hollopeter, Queen-breeder, Pentz, Pa.

QUEENS FROM THE PENN CO. See our large ad. elsewhere in this Journal.

VIGOROUS prolific Italian queens, \$1.00 each; 6 for \$5.00. A. V. Small, 2302 Agency Road, St. Joseph, Mo.

ARCHDEKIN's fine Italian queens and bees. See larger ad. in this issue. J. F. Archdekin, Big Bend, La.

GOLDEN all-over Queens of Quality. Untested, 75c; tested, \$1.50. A. O. Heinzel, Rt. 3, Lincoln, Ill.

QUEENS of Moore's strain of Italians. Untested, \$1.00 each; 6 for \$5.00. Less in larger numbers. P. B. Ramer, Harmony, Minn.

ITALIAN BEES—Untested queen, 60c; 2-fr. nuclei with Italian queen, \$2.25; bees by the pound, \$1.00. Rosedale Apiaries, Big Bend, La.

NOTICE W. W. Talley will sell bright Italian queens this season at 60c each, \$7.00 per dozen. Safe arrival guaranteed. W. W. Talley, Rt. 4, Greenville, Ala.

QUEENS OF QUALITY—I am booking orders for early queens now. Three-banded Italians only. Circular free. J. I. Banks, Dowlstown, Tenn.

ITALIAN and Carniolan Queens, the earliest and best to be had of either race. My circular and prices are free. Grant Anderson, San Benito, Tex.

ITALIAN QUEENS for sale this season at 60c each; \$7.00 per dozen. Ready April 15. Safe arrival guaranteed. T. J. Talley, Rt. 3, Greenville, Ala.

PLACE your order early to insure prompt service. Tested, \$1.25; untested, \$1.00. Italians and Goldens. John W. Pharr, Berclair, Tex.

QUIRIN's superior improved queens and bees are northern bred, and are hardy. Orders booked now. Over 20 years a breeder. Free circular. H. G. Quirin, Bellevue, Ohio.

GOLDEN Italian Queens, about June 1. Untested 75c; half doz., \$4.00. Tested, \$1.25. Pure mating guaranteed. J. I. Danielson, Rt. 7, Fairfield, Iowa.

TRY my best bright yellow queens. They are beautiful and good honey "getters." 60c each or \$7.00 per dozen. Safe arrival and satisfaction guaranteed. M. Bates, Rt. 4, Greenville, Ala.

GOLDEN QUEENS that produce Golden Workers of the brightest kind. I will challenge the world on my Goldens and their honey-getting qualities. Price, \$1.00 each; Tested, \$2.00. Breeders, \$5.00 and \$10.00. 2Atf J. B. Brockwell, Barnetts, Va.

QUEENS—The quality kind, 3 band Italians only. Winners at Hartford and Berlin, 1914. Untested after June 1, \$1.00. A. E. Crandall & Son, Berlin, Conn.

QUEEN BEES—Treasure State Brand leather-colored Italians; can't be beat. Ready June 1 \$1.00 each; \$10 per dozen. White City Apiaries, Lavina, Mont.

ITALIAN QUEENS, also the Golden Beauties and Carniolans. Tested, \$1.00. Untested, 75c each. For bees by the pound and queens in lots write for prices. Page Bankston, Buffalo, Tex.

QUEENS ready in May. J. E. Hand strain of 3-banded Italians, extra good workers and very gentle. Prices, select untested, \$1.00 each; 6 for \$5.00. Select tested, \$1.75 each; 6 for \$10.00. Breeders, \$5.00 each. J. M. Gingerich, Kalona, Iowa. (Formerly Arthur, Ill.)

FOR SALE—Fine honey gathering strain of Italian bees in pound packages. One lb., \$1.50; 10 lbs., \$12.50; 100 lbs., \$100. Special prices on larger quantities. Small shipments by return mail. Leib & Miller, R. F. D. 7, San Jose, Calif.

WANTED—To send our list to you of our famous honey gathering and almost non-swarming strain of Golden queens. No better bees of any strain to be found. One fr. untested, \$1.00; 6 for \$5.00; 12 for \$10.00. Write us what you want. T. S. Hall, Talking Rock, Ga.

THE SECRET OF SUCCESS is in having your colonies headed by good prolific queens. We have good Italian queens at 75c for untested and \$1.00 for tested. G. W. Moon, 1904 Adams St., Little Rock, Ark.

QUEENS, improved three-band Italians bred for business, June 1 to Nov. 15. Untested Queens, 75c each; dozen, \$8.00; Select, \$1.00 each; dozen, \$10. Tested Queens, \$1.25; dozen, \$12. Safe arrival and satisfaction guaranteed. H. C. Clemons, Boyd, Ky.

FOR SALE—After June 15 Golden Italian queens. Strictly northern bred and hardy. Fine honey gatherers and gentle. No disease. Safe arrival guaranteed. Untested, \$1.00; 6, \$5.00; 12, \$10.00. Tested queen after July 15, 50c each extra. J. Stuart Scofield, Kirkwood, N. Y.

GOLDEN and 3-banded Italian and Carniolan queens, ready to ship after April 1st. Tested, \$1.00; 3 to 6, 95c each; 6 to 12 or more, 90c each. Untested, 75c each; 3 to 6, 70c each; 6 or more, 65c. Bees, per lb., \$1.50; Nuclei, per frame, \$1.50. C. B. Bankston, Buffalo, Leon Co., Tex.

THREE-BANDED Italian Queens ready April 1, of an exceptionally vigorous and long-lived strain of bees. They are gentle, prolific, and good honey gatherers. Untested, \$1.00; 3, \$2.50; 6, \$4.50; 12, \$8.00. Tested, \$1.25; 6, \$6.50; 12, \$12. Jno G. Miller, 723 So Carrizo St., Corpus Christi, Tex.

NOTICE—R. A. Shults will sell Italian queens in the season of 1915. Untested, \$1.00. After June 1, 75c; tested, \$1.50; select tested, \$2.00. Breeders, \$5.00. Bred from Moore and Doolittle stock. R. A. Shults, R. F. D. 3, Cosby, Tenn.

PHELPS' Golden Italian Queens combine the qualities you want. They are great honey gatherers, beautiful and gentle. Mated, \$1.00; six, \$5.00; Tested, \$3.00; Breeders, \$5.00 and \$10. C. W. Phelps & Son, 3 Wilcox St., Binghamton, N. Y.

I CAN supply you with Golden or three-banded Italian queens. Tested, \$1.00 each; six or more, 85c each; untested, 75c each; six or more, 65c each. Bees, per pound, \$1.25. Nuclei per frame, \$1.25. Write for prices on large orders. Everything guaranteed. I. N. Bankston, Buffalo, Tex.

FAMOUS North Carolina Italian Queens for sale. Reared from Howe's best breeders. Mated with Root's, Moore's, Davis', select stock. Free from disease. Untested, one 75c; per doz, \$7.50. Select untested, one, \$1.00; per doz., \$9.00. Tested, \$1.25; select tested, \$1.50. Breeders, \$3.00 and \$5.00. H. B. Murray, Liberty, N. C.

GOLDEN ITALIAN QUEENS that produce golden bees and good honey gatherers. Tested, \$1.00. Select tested, \$1.25. Untested, 70c; dozen, \$8.00. After July 1 untested, 60c; dozen, \$7.00. D. T. Gaster, Rt. 2, Randleman, N. C.

BEES AND HONEY FOR SALE—Nucleus, 1-frame, \$1.50; 2 frame, \$2.25; 3 frame, \$3.00. Bees by the pound, 1/2 lb., \$1.00; 1 lb., \$1.50; 2 lb., \$2.00. All the above without queens, f. o. b. Chriesman, Tex. Queens, untested, 75c; tested, \$1.00. Prices of honey given on application. Address, J. W. Small, Chriesman, Texas.

DURING spring and summer months we re-queen all our two thousand colonies to prevent swarming. The queens removed from those hives are only one year old and of best Italian stock. We offer these queens at 50c each; \$5.40 per dozen. Satisfaction guaranteed or money back. No disease. Spencer Apiaries Co., Nordhoff, Calif.

FOR SALE—Queens, three-band Italians. Extra good strain. Their bees are great hustlers. Only drones from selected queens near mating yard. Untested, one, \$1.00; 6 for \$4.50; 12, \$8.00. Ready June 15. When ordering, state time within which queens are wanted. They will be mailed promptly or money returned. D. G. Little, Hartley, Iowa.

FOR SALE—Three-banded Italian queens from the best honey-gathering strains, that are hardy and gentle. Untested queens, 75c; 6, \$4.25; 12, \$8.00. Tested queens, \$1.25; 6, \$7.00; 12, \$12. Selected queens, add 25c each to above prices. Breeding queens, \$1.00 to \$5.00 each. For queens in larger quantities, write for prices and circulars. Robert B. Spicer, Wharton, N. J.

500 SAMPLE QUEENS at 10c on first 500 orders. Moore's Strain Leather Colored Italians. Write for particulars and prices in quantity. April and May orders booked now on 10 percent deposit. Orders filled promptly or notice given when such deliveries can be made. Regular prices: Untested queen, 75c; six, \$4.25; twelve, \$8.00. Timberline Riggs, breeder. Ogden Bee & Honey Co., Ogden, Utah.

THE BOOSTER—A popular paper at a popular price. A brand new paper devoted to the selling end of the honey business. Will discuss honey publicity in all its bearings relating to honey production. Suitable alike for the small producer and the specialist. Begin with the first number. You will appreciate every page, 25c for a whole year's subscription—clubs of five, \$1.00. Geo. W. Williams, Redkey, Ind.

QUEENS OF QUALITY—Our hand Moore strain of 3-banded Italians are beautiful and good honey gatherers. Secured 223 sections comb honey from best colony in 1914 season. Only drones from selected queens near mating yard. Bred strictly for business. Untested, 75c; six, \$4.00. Select, \$1.00. Queens mailed promptly or money returned. W. A. Latshaw Co., Clarion, Mich.

GRAY CAUCASIANS—Their superior qualities are early breeding; great honey gatherers; cap beautifully white; very prolific; very gentle; great comb builders; not much inclined to swarm; give better body to honey; not much inclined to rob; very hardy; never furious; good winterers; everywhere the best all-purposed bee. Give me a trial order for a queen or nucleus. Prices on application. J. J. Wilder, Cordele, Ga.

BEES AND QUEENS—California queens, nuclei and bees, bred from the best Doolittle stock. Our customers say they are hustlers. A sample order will prove it to you. We can fill any sized order at once. Queens, untested, 75c; doz., \$8.00. Select, \$1.00; doz., \$10. Tested, \$1.25; doz., \$12. Select, \$1.50; doz., \$15. Tested, 1-year old, 75c; doz., \$8.00. Select, \$1.00; doz., \$10. Nuclei, 2 frames, \$1.50; 3 frames, \$2.25; 5 frames, \$3.00; 10-frame colony, \$4.50. Bees by the pound: 1/2 lb. pkg., 75c; 1-lb. pkg., \$1.00; 2-lb. pkg., \$1.75; 5-lb. pkg., \$4.00. Add price of queens desired to all above bees and nuclei. Special discounts—on lots of 100 or more. Any one of the above queens free or 10 percent discount from your order if you will send us the names and addresses of your neighbor beekeepers. Delivery guaranteed. No disease. Spencer Apiaries Co., Nordhoff, Calif.

American Bee Journal

FROM SOUTHERN NEW MEXICO—My yards will be able to furnish you bees by the pound at an early date. No disease. Satisfaction must be yours. Write at once. I can surprise you on prices. Established in 1914.
S. Mason, Hatch, New Mexico.

MOORE'S STRAIN and Golden Italian queens. Untested, one, \$1.00; 6, \$5.00; 12, \$9.00; 50, \$35. Carniolan, Banat and Caucasian queens. Untested, one, \$1.25; 6, \$6.00; 12, \$10. Tested, any kind, one, \$1.50; 6, \$8.00. Choice breeding queens of any kind, \$5.00 each. Nuclei, 2-frame, \$2.50; 3-frame, \$3.25; 10-frame, full colony, \$5.00. Bees by the pound, \$1.25. Add price of queens desired to all above nuclei and bees. Comb foundation. Circular free. Genuine orange blossom and mountain sage honey, one gallon can, \$1.20; five gallon can, \$5.50; case, two five gallon cans, \$10. Samples, 10c each. Everything securely packed or crated and delivered at Orange depot. Safe arrival and satisfaction on everything we ship guaranteed.
W. H. Rails, Orange, Calif.

HONEY AND BEESWAX

WANTED—Comb, extracted honey, and beeswax.
R. A. Burnett & Co.,
6A12t 173 S. Water St., Chicago, Ill.

HONEY FOR SALE—Have on hand 1,000 lbs. new imported Hymettus Honey. Make offer for part or entire lot. Chas. D. Stone & Co., Custom House Brokers, 112 West Adams St., Chicago, Ill.

SUPPLIES.

BEE SUPPLIES, all kinds, low prices. Catalog free.
J. W. Rouse, Mexico, Mo.

FOR SALE—Cedar or pine dovetailed hives, also full line of supplies including Dadant's foundation. Write for catalog.
A. E. Burdick, Sunnyside, Wash.

BROTHER BEEKEEPERS, send for my new prices on Supplies. I can save you money. Beeswax wanted.
W. D. Soper,
Jackson, Mich.

BEE-KEEPER, let us send our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap.
White Mfg. Co.,
4A1f Greenville, Tex.

FOR SALE—I am selling foundation and paying the freight to your station anywhere in La. Root's goods for sale. Send me your orders. Am paying 28c cash for wax or 30c in trade delivered here.
J. F. Archdekin, Big Bend, La.

STANDARD DOVETAILED HIVES shipped direct from factory in Iowa. Fine 8 frame for \$6.00. Hoffman frames, \$2.75 per hundred. Plain sections, \$1.20 per M. Write for prices on what you need—a full line.
The Stover Apiaries, Mayhew, Miss.

LEWIS BEEWARE—Root's extractors, smokers, etc. Dadant's Comb Foundation. Large stock always on hand for prompt shipment. Western beekeepers can save money by patronizing the oldest co-operative association of beekeepers. Illustrated catalog free.
The Colorado Honey Producers' Ass'n.
Denver, Colo.

SUPPLIES—California redwood hives, single story, 85c; supers, 25c; frames, 1 1/3c each. 10 percent discount in lots of 100 or more of any of above. Special 5 percent discount on all supplies. Let us show you some of our bargains by sending our catalog. It's free. Also a fine hive scraping tool by mail free, if you will send us names and addresses of your neighbor beekeepers.
Spencer Apiaries Co., Nordhoff, Calif.

FOR SALE

FOR SALE—10 new 10-fr. D.T. hives, 1 story, nailed and painted at \$1.50 each. 1250 new No. 1 4x5x1 1/2 plain sections at \$5.00; 60 second hand comb honey supers, 10 frame, for 32-4x5x1 1/2 plain sections, well painted, at 35c each. All Lewis goods.
Fred H. May, Meredosia, Ill.

FOR SALE OR EXCHANGE for honey or bee-supplies, 1912 8 H. P. American twin cylinder motor cycle. Cost \$240. What's your offer?
Emil E. Nelson, Route 2, Renville, Minn.

POULTRY

PARTRIDGE ROCK EGGS for hatching, \$3.00 per 15. Neville Poultry Farm Kewanee, Ill.

MISCELLANEOUS

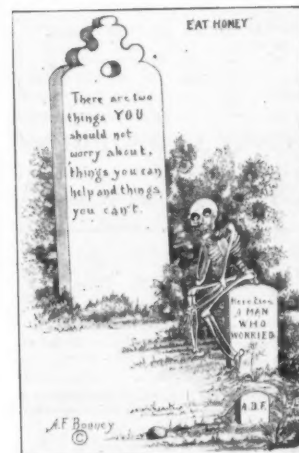
LEARN Jiu Jitsu by mail. F. McCaun, La Gloria, Cuba.

HONEY LABELS and printing for beekeepers. Catalog free. Liberty Pub. Co., Sta. D., Box 4 H, Cleveland, Ohio.

ANT RID destroys ants in the house, apiary or lawn. Guaranteed. 25c postpaid. Man'd and for sale only by
A. D. D. Wood, Box 61, Lansing, Mich.

I AM REWRITING, revising and enlarging the "Pearce Method of Beekeeping." It was my intention to have it out by the first of March, but owing to a spell of sickness it was delayed, but will be out on or before the first of May. Order then. The price, 50c, will be the same as the first edition.
J. A. Pearce,
Rural 1, Grand Rapids, Mich.

EAT HONEY



Advertising post cards. Original. Unique Copyright. By the dozen or hundred. Samples 2 cents each. Six designs.
Dr. BONNEY, Buck Grove, Iowa

IT'S A LONG WAY TO TIPPERARY

But it's a short way to success if your colonies are headed with queens from **The J. E. Marchant Bee and Honey Company**, breeders of the highest grade of Island-bred Italian Queens.

Pure mating guaranteed. Prices as following:

	1	6	12		1	6	12
Untested queens.....	\$1.50	\$ 7.50	\$12.00	1/2-lb. Bees....	\$1.50	\$ 7.50	\$12.00
Tested.....	2.00	10.50	18.00	1-lb. ".....	2.00	10.50	18.00
Select tested.....	3.00	15.00	24.00	2 lbs. ".....	3.00	15.00	27.50
Breeders.....	\$5.00 and 10.00			3 lbs. ".....	4.00	21.00	36.00
Extra select breeders. 25 00				5 lbs. ".....	5.50	27.50	50.00

These prices are without queens.

We will ship from Canton, Ohio, after June 1.

We guarantee safe delivery and a square deal. **Watch us grow.**

The J. E. Marchant Bee & Honey Co.,
Apalachicola, Florida

Untested Italian Queens

For a number of years we have been furnishing Italian queens to our customers, and their words of encouragement have led us to believe that our services are appreciated. Being in touch with many large breeders, we are in a position to furnish untested queens of first quality with but little delay. We can furnish either ordinary leather-colored or bright yellow queens as preferred. Prices as follows:

BEFORE JULY 1.			
1 untested.....	\$ 1.25	Tested Queens	
6 ".....	5.50		\$1.75 each
12 ".....	10.00		
AFTER JULY 1.			
1 untested.....	\$1.00	Tested Queens	
6 ".....	4.50		\$1.50 each.
12 ".....	8.50		

Special prices on larger lots on application.

CAUCASIAN QUEENS

There has been much inquiry for this race of bees. We can fill orders for these queens at the same rates as above.

American Bee Journal, Hamilton, Illinois



American Bee Journal



"NITMEG QUEENS"
BY RETURN MAIL

Leathered-colored Italians. Hardy, northern reared. Up-to-date methods. Until June 1, tested, \$2.00. After \$1.50. Untested, \$1.00; 12 for \$10. Large orders a specialty.

A. W. YATES 3 Chapman St. HARTFORD, CONN.

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[Signed] M. G. DADANT, Manager.

Sworn to and subscribed before me this 30th day of March, 1915.

[SEAL.] H. M. CUERDEN.

Notary Public.

My Commission expires Aug. 25, 1917.

YOUR ORDERS

For tested Queens will be filled by return mail. Three-banded Italians only, bred to a high standard of excellence. Never a case of foulbrood in our apiary, which was established in 1886. Tested Queens, \$1.00. Untested, \$1.00; per doz. \$9.00. Satisfaction guaranteed.

J. W. K. SHAW & CO., Loreauville, La.

Miller's Strain Italian Queens

By RETURN mail after June 5th to 10th, or money refunded. Bred from best RED-CLOVER strains in the U. S. In full colonies from my SUPERIOR BREEDERS; northern bred for business; long tongued, three banded, gentle, winter well, hustlers, not inclined to swarm; roll honey in. One untested, \$1.00; 6, \$5.00; 12, \$9.00. One select untested, \$1.25; 6, \$6.00; 12, \$11.00. A specialist of 17 years' experience. Safe arrival and satisfaction guaranteed.

I. F. MILLER, Brookville, Pennsylvania

QUEENS OF MOORE'S STRAIN OF ITALIANS

PRODUCE WORKERS

That fill the supers quick
With honey nice and thick.

They have won a world-wide reputation for honey gathering, hardiness, gentleness, etc.

Untested queens, \$1.00; 6, \$5.00; 12, \$9.00. Select untested, \$1.25; 6, \$6.00; 12, \$11.00.

Safe arrival and satisfaction guaranteed. Circular free.

J. P. MOORE,

Queen-breeder

Rt. 1, Morgan, Ky.

SELL YOUR QUEENS IN CANADA

IN the Province of Ontario alone there are 11,000 persons producing honey. A very conservative calculation means that there are 50,000 Queens. If you have Queens to sell to Canadian bee men, say so in The Canadian Horticulturist and Beekeeper, the only bee publication in Canada. It is the official organ of the Ontario and New Brunswick Beekeepers' Associations.

Classified rate 3 cents per word—each single number and sign

counting as one word. Cash in advance.

Specimen copy on request.

The Canadian Horticulturist and Beekeeper
Peterboro, Canada

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TEXAS QUEENS



Circular free

Grant Anderson, San Benito, Tex.

Italians, the pure three-banded stock from imported mothers. Carniolans, the pure dark grey stock from Carniola. Queens will be ready to ship early in March. No disease. Prices, 75 cents each. \$8.00 per dozen.

Porto-Panama Hats

COOL AS A DROP OF DEW

Hand-woven, soft, durable, comfortable. Good as the South American Panama but cooler, lighter, more dressy. Direct from maker to you \$1.50 postpaid. State size and send money order. Money refunded if you are not perfectly satisfied. Very stylish for Ladies this year.

MARTIN LOPEZ & CO.

P.O. Box 148 A 13 San German, Porto Rico
Ref.: Bank de Economias, San German.

BARNES' Foot-Power Machinery



Read what J. I. Parent of Chariton, N. Y., says: "We cut with one of your Combined Machines last winter 50 chaff hives with 7-in. cap, 100 honey-racks, 500 frames, and a great deal of other work. This winter we have a double amount of hives, etc. to make with this saw. It will do all you say of it."

Catalog & price-list free

W. F. & JOHN BARNES
205 Ruby St., ROCKFORD, ILLINOIS.

QUEENS OF QUALITY

Three-band, leather color, select untested, 75 cts. each; \$8.00 per dozen. Satisfaction guaranteed. Circular free.

J. I. BANKS, DOWELTOWN, TENN.

LEGHORN BREEDERS!

Send in your subscription to The Leghorn Journal and keep posted on the progress of the Leghorn industry; as it is devoted exclusively to the different Leghorn fowls. Subscription price 50c per year. Special offer—Send us 10c and the names of five of your neighbors interested in Leghorns, and we will send you The Leghorn Journal for three months.

THE LEGHORN JOURNAL
Appomattox, Virginia

Weber Service!

At this time of the year it is especially important that the Beekeeper be able to secure his supplies without delay. With the promise of an early spring and a heavy honey-flow this is doubly important.

Root's Goods and Weber Service

IS A COMBINATION THAT IS HARD TO BEAT

We have a reputation for prompt delivery and quick service. Being located in Cincinnati, the gateway of the South, we can save you considerable in transportation charges.

Our 1915 catalog will be promptly mailed to any one interested.

C. H. W. WEBER & CO.,

2146 Central Avenue,

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A Corner of Our Wax Room

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MARSHFIELD GOODS

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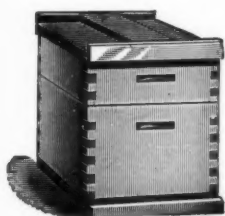
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